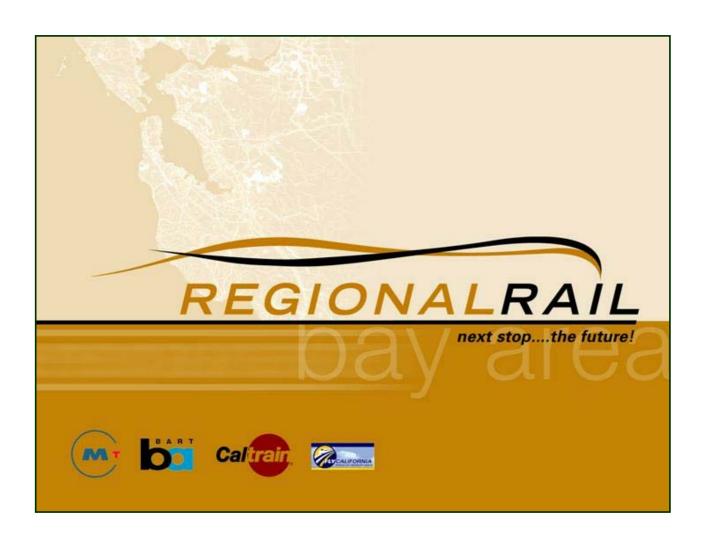
BAY AREA REGIONAL RAIL PLAN

Technical Memorandum 4c Engineering Environmental Issues & Costs



August 30, 2007



INTRODUCTION

Scope: For each study alternative, consultant shall perform cost estimation to an appropriate conceptual level of confidence of railroad track, grade and subgrade construction, including major incidental structures. Cost and environmental issues represent prominent concerns in bay crossings, and should be clearly reflected in the execution of this subtask. Input is anticipated from HSR team for cost estimate consistency.

This technical memorandum only addresses the cost associated with each study corridor for the 2050 configuration, Alternatives 1 and 2. Environmental Issues are addressed in detail in technical Memorandum 4m – Environmental Screening of Regional Rail Alternatives. Engineering Issues are addresses in Technical Memorandum 4b – Conceptual Civil Engineering and Major Bay Crossings.

Studied Corridors

The rail corridors listed below were estimated in this report. These corridors are described in detail in Tech Memo 4b – Conceptual Civil and Structural Engineering and Major Bay Crossings, and illustrated in figures 1 and 2 on the following pages, under each Study Alternative.

Study Alternative 1 shows major BART extensions with service expansion of the standard railroad based services. Alternative 2 shows BART as a "metro" service with extensive light weight electrified service for the railroad based services.

The BART infield stations are shown under Alternative 1. The table at the end of this section is a summary of the costs of each corridor under each studied alternative.

US 101 North (San Francisco to Cloverdale)

1 Smart Corridor: Cloverdale to Larkspur (Alt 1) to Richmond (Alt 2)

North Bay (US 101 to I-80)

- 2 Ignacio to Fairfield/Suisun
- 3 St Helena to Vallejo

I-80 (Auburn to Oakland)

- 4 Auburn to Sacramento
- 5 Sacramento to Richmond
- 6 Richmond to Oakland

Central Valley

- 7 Stockton to Richmond
- 8 Tracy to Martinez
- 9 Sacramento to Merced

Dumbarton

- 10 Redwood Jct. to Newark
- 11 Newark to Niles Junction

Tri-Valley

- 12 Niles JCT to Pleasanton
- 13 Pleasanton to Livermore
- 14 Livermore to Tracy
- 15 Tracy to Stockton
- 16 Tracy to Patterson

East Bay (Oakland to San Jose)

17 Oakland to San Jose

Peninsula (San Francisco to San Jose)

18 San Francisco to San Jose

South Counties

- 19 San Jose to Gilroy
- 20 Gilroy to Salinas
- 21 Santa Cruz to Watsonville Jct.
- 22 Castroville to Monterey
- 23 Gilroy to Hollister

Transbay

24 West Oakland to San Francisco Regional Rail (Alt 2 only)

BART

- 25 BART Fremont to Martinez (I-680) (Alt 1 only)
- 26 BART Oakland 4th Track (Alt1 only)
- 27 Bay Crossing BART West Oakland Wye to Geary Corridor (Alt 1 only)
- 28 Bay Crossing BART West Oakland Wye to Presidio (Alt 1 only)
- 29 BART Extension to Livermore: Dublin to Greenville (Alt 1) to Isabel (Alt 2)
- 30 BART Extension to Hercules (Alt 1 only)
- 31 BART Fremont to warm Springs
- 32 BART Warm Springs to San Jose
- 33 BART Infill Station West Dublin
- 34 BART Infill Station Irvington
- 35 BART Infill Station Calaveras
- 36 BART Infill Station Albany
- 37 BART Infill Station Union City
- 38 BART Infill Station San Antonio
- 39 BART Infill Station San Francisco 30th Street

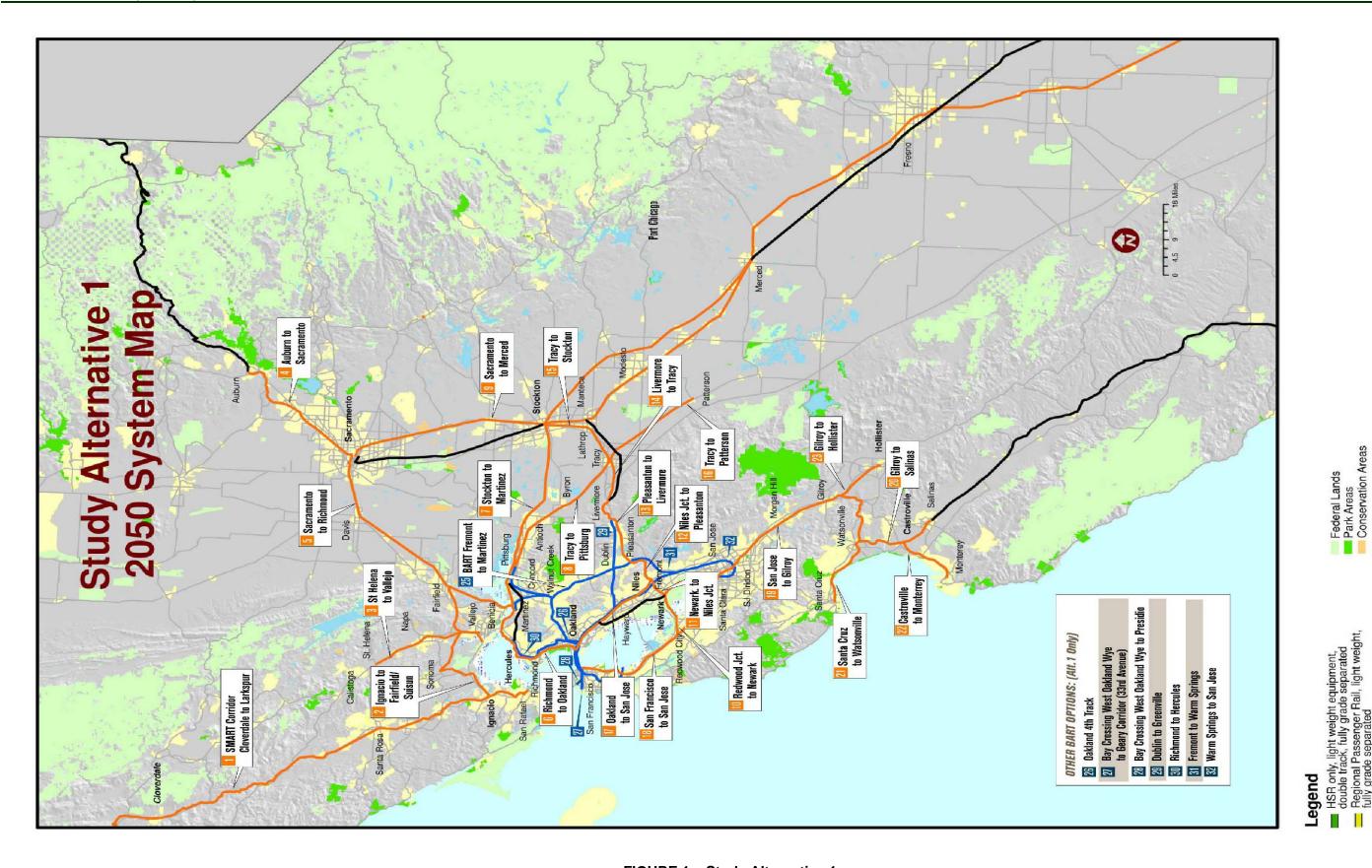


FIGURE 1 – Study Alternative 1

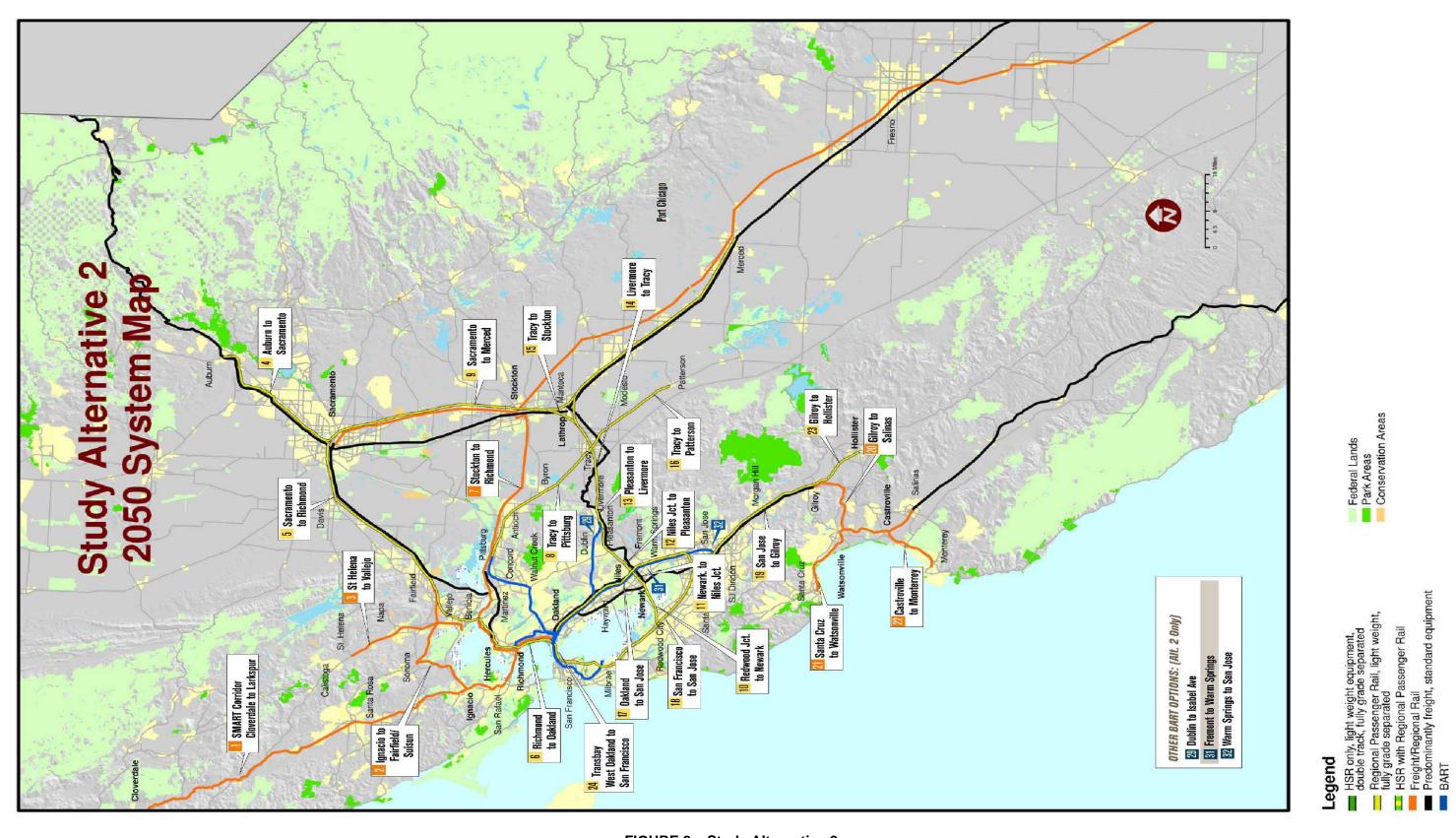


FIGURE 2 – Study Alternative 2

CAPITAL COST SUMMARY TABLE

	STUDIED CORRIDORS		nearest million)
		Study Alternative 1	Study Alternative 2
	US 101 North (San Francisco to Cloverdale)	\$478,000,000	\$1,775,000,000
1	Smart Corridor Cloverdale to Larkspur (Alt 1) to Richmond (Alt 2) - Alt 2 includes new Richmond rail bridge.	\$478,000,000	
	North Bay (US 101 to I-80)	\$740,000,000	\$740,000,000
-	Ignacio to Fairfield/Suisun	\$322,000,000	\$322,000,000
-	St Helena to Vallejo	\$418,000,000	
	I-80 (Auburn to Oakland)	\$2,164,000,000	\$4,149,000,000
4	Auburn to Sacramento	\$428,000,000	\$895,000,000
5	Sacramento to Richmond	\$1,020,000,000	
6	Richmond to Oakland	\$716,000,000	
	Central Valley	\$3,685,000,000	\$6,099,000,000
7	Stockton to Martinez (Alt.1) to Richmond (Atl. 2)	\$343,000,000	\$343,000,000
	Tracy to Pittsburg (Alternative 2 has double track)	\$546,000,000	\$893,000,000
_	Sacramento to Merced	\$2,796,000,000	\$4,863,000,000
	Dumbarton	\$751,000,000	\$1,257,000,000
10	Redwood Jct. to Newark	\$321,000,000	\$710,000,000
	Newark to Niles Junction	\$430,000,000	\$547,000,000
	Tri-Valley	\$917,000,000	\$3,900,000,000
12	Niles JCT to Pleasanton	\$93,000,000	\$1,035,000,000
-	Pleasanton to Livermore	\$236,000,000	\$581,000,000
14	Livermore to Tracy	\$162,000,000	
15	Tracy to Stockton	\$303,000,000	\$763,000,000
16	Tracy to Patterson	\$123,000,000	\$354,000,000
	East Bay (Oakland to San Jose)	\$924,000,000	\$3,129,000,000
17	Oakland to San Jose	\$924,000,000	\$3,129,000,000
	Peninsula (San Francisco to San Jose)	\$5,237,000,000	\$5,237,000,000
18	San Francisco to San Jose	\$5,237,000,000	\$5,237,000,000
	South Counties	\$1,597,000,000	\$2,535,000,000
19	San Jose to Gilroy	\$352,000,000	\$1,137,000,000
	Gilroy to Salinas	\$288,000,000	\$288,000,000
-	Santa Cruz to Watsonville Jct.	\$616,000,000	
22	Castroville to Monterey	\$253,000,000	\$253,000,000
23	Gilroy to Hollister	\$88,000,000	\$241,000,000
	Transbay		\$2,123,000,000
24	West Oakland to San Francisco Regional Rail (Alt 2 only)	NA	\$2,123,000,000
	BART Corridors (current eBART alignment is included in the Tri-Valley corridors)	\$25,740,000,000	\$6,454,000,000
25	BART Freemont to Martinez (I-680) (Alt 1 only)	\$3,933,000,000	NA
_	BART Oakland 4th Track (Aitf only)	\$317,000,000	NA
_	Bay Crossing BART West Oakland Wye to Presidio/Geary Corridor (Alt 1 only)	\$11,969,000,000	NA
_	Bart Extension to Livermore: Dublin to Greenville (Alt 1) to Isabel (Alt 2) -per I-580 BART to Livermore FSR	\$1,212,000,000	\$650,000,000
_	Bart Extension to Hercules (Alt 1)	\$1,620,000,000	
_	Bart Fremont to Warm Springs (per BART WSX EIS dated June 2006, escalated from 2004 to 2006 dollars)	\$759,000,000	\$759,000,000
-	Bart Warm Springs to San Jose (per SVRT Project Estimate, escalated from 2005 to 2006 dollars) Bart Infill Station - West Dublin (red, two per grade see, Veines and two parties structures, per final const.	\$4,983,000,000 \$62,000,000	\$4,983,000,000 \$62,000,000
_	Bart Infill Station - West Dublin (incl. two ped grade sep. Xsings and two parking structures, per final const. cost) Bart Infill Station - Irvington (Incls. Int. Facility per BART WSX FEIS dated June 2006, escalated to 2006 dollars)	\$89,000,000	\$62,000,000 NA
	Bart Infill Station - Calaveras	\$60,000,000	NA NA
_	Bart Infill Station - Albany	\$52,000,000	NA NA
-	Bart Infill Station - Union City (incl. line relocation. & site Imprvmt. per UC Study dated May 2005 escalated. to 2006 dollars)	\$110,000,000	NA
37	Bart Infill Station - Oakland San Antonio	\$52,000,000	NA
38	Bart Infill Station - San Francisco 30th Street (per BART Study Report of May 2003 escalated. to 2006 dollars)	\$522,000,000	NA
	TOTAL REGIONAL COSTS	\$42,233,000,000	\$35,275,000,000

OPERATING COST SUMMARY TABLE Service year 2050 (in 2006 dollars)

		ALTERNATI	VE 1		ALTERNATI	/E 2
CORRIDORS	Operation Cost Per Year (assuming \$1600-\$1800/train-hr & 300 days/year)		Train Hours/Day	Operation Cost Per Year (assuming \$1600-\$1800/train-hr 300 days/year)		
US-101 North Corridor		\$46,872,000	\$52,731,000		\$56,182,553	\$63,205,372
Cloverdale <-> Larkspur		\$46,872,000	\$52,731,000	65	\$31,248,000	
Santa Rosa <-> Stockton	-	*** ***	*******	52	\$24,934,553	7
North Bay Corridors	24	\$28,122,115	\$31,637,379		\$55,450,426	\$62,381,730
San Rafael <-> Fairfield/Vacaville	31	\$15,042,115	\$16,922,379	61	\$29,290,426	
Saint Helena <-> Vallejo Ferry	27	\$13,080,000	\$14,715,000	55	\$26,160,000	
I-80 / East Bay / I-880 Corridor Sacramento <-> San Jose	145	\$116,168,546	\$130,689,614		\$19,440,000	\$21,870,000
Auburn <-> San Jose		\$69,573,638	\$78,270,343	-		
Oakland <-> San Jose		\$46,594,908	\$52,419,271	41	\$19,440,000	\$21,870,000
Sacramento <-> Jack London Square	-			41	\$15,440,000	\$21,070,000
Peninsula Corridor		\$150,911,101	\$169,774,989		\$192,611,063	\$216,687,445
San Francisco <-> Gilrov	-	\$100,011,101	\$100,114,000	_	\$102,011,000	\$210,001,440
San Francisco <-> San Jose				_		
San Francisco <-> San Jose (express)	-			_		
Salinas <-> SF 4th & Townsend (local)	84	\$40,176,625	\$45,198,703	_		
Salinas <-> SF Transbay Terminal (local)	154	\$73,933,116	\$83,174,756	_		
San Jose <-> SF 4th & Townsend (express)	27	\$12,978,000	\$14,600,250	-		
San Jose <-> SF Transbay Terminal (express)	50	\$23,823,360	\$26,801,280	-		
Hollister <-> San Francisco (local)	-	, , , , , , , , , , , , , , , , , , ,	,,,	90	\$43,008,000	\$48,384,000
San Jose <-> Auburn (local)	-			155	\$74,265,532	\$83,548,723
San Jose <-> Sacramento (express)	-			157	\$75,337,531	\$84,754,722
South Counties Corridors		\$24,528,000	\$27,594,000		\$47,165,944	\$53,061,687
Santa Cruz <-> Monterey	41	\$19,488,000	\$21,924,000	81	\$38,976,000	\$43,848,000
Gilroy <-> Hollister	11	\$5,040,000	\$5,670,000	-		
Gilroy <-> Salinas	-			17	\$8,189,944	
Transbay Corridors		\$22,560,000	\$25,380,000		\$38,052,160	\$42,808,680
Merced <-> San Francisco				31	\$14,896,960	\$16,759,080
Union City <-> Millbrae		\$10,310,400	\$11,599,200	-		
Union City <-> San Jose	26	\$12,249,600	\$13,780,800	11	\$5,155,200	\$5,799,600
West Oakland <-> San Jose	-			38	\$18,000,000	
Central Valley Corridors		\$108,351,591	\$121,895,539		\$30,240,000	\$34,020,000
Merced <-> Jack London Square via Stockton	56	\$26,841,938	\$30,197,180	-	1	
Merced <-> Jack London Square via UPRR		\$43,901,054	\$49,388,686	-	000 010 0	804 500 5
Merced <-> Sacramento via UPRR Tri-Valley Corridor	78	\$37,608,598	\$42,309,673	63	\$30,240,000	
Stockton -> San Jose	_	\$68,260,270	\$76,792,804		\$60,721,547	\$68,311,740
Sacramento <-> San Jose		\$68,260,270	\$76,792,804	-		
Sacramento <-> Hollister	142	\$00,200,270	\$70,732,004	127	\$60,721,547	\$68,311,740
RAIL TOTALS	1179	\$565,773,622	\$636,495,325	1041	\$499.863.693	\$562,346,654
BART	1.75	\$000ji 10j022	2000,700,020	1341	\$100,000,000	+002,040,004
Pittsburg/Bay Point <-> SFO	317	\$151,985,633	\$170,983,837	317	\$151,985,633	\$170,983,837
Pittsburg/Bay Point <-> 33rd Avenue (Alt. 1b)	271	\$129,986,620	\$146,234,947	-	,,,,,,,,,,	,,
North Hercules <-> 33rd Avenue (Alt. 1b)	268	\$128,475,255	\$144,534,662	-	1	
Greenville Road <-> Millbrae	339	\$162,798,542	\$183,148,360	-	1	
Richmond <-> Millbrae	-			258	\$123,954,977	\$139,449,349
Isabel Avenue <-> Daly City	-			140	\$67,309,152	
Santa Clara <-> North Hercules	397	\$190,563,957	\$214,384,451	-		
Santa Clara <-> Martinez	276	\$132,547,154	\$149,115,548	-	1	
Santa Clara <-> Richmond	-			186	\$89,052,818	\$100,184,420
Santa Clara <-> Daly City	-			190	\$91,227,860	\$102,631,343
SFO <-> Millbrae	14	\$6,720,000	\$7,560,000	14	\$6,720,000	
BART TOTALS	1881	\$903,077,161	\$1,015,961,806	1105	\$530,250,440	\$596,531,745

COST METHODOLOGY

GENERAL BASIS OF COST ESTIMATE

A. CAPITAL COSTS

The starting point of the estimates presented in this report was the existing condition of each corridor as described in Tech Memo 4a. The improvements for each studied alternative are described in detail in Tech memo 4d. The unit costs and cost elements are per California High Speed Train Program EIR/EIS Appendix 4-A, adjusted for the Regional Rail program.

Throughout the course of this study, plan, profile and other conceptual level engineering were developed for some corridors. The cost estimates for these corridors were developed from conceptual level quantity take off. When existing cost data was available, such cost data was reviewed, revised as necessary and incorporated into this report as appropriate. Cost breakdown spreadsheets are included in the Appendix for all rail corridors except BART corridors.

The costs for most BART corridors, except for Oakland 4th track and West Oakland Wye to Geary Corridor, were developed in coordination with BART using a combination of unit costs per mile for existing BART extensions provided by BART, order of magnitude cost estimates developed during this study (for comparison purpose) and cost data from previous report, when available. For this reason cost breakdown spread sheets for BART corridors are not included in the Appendix.

The cost estimates presented in this report are in 2006 dollars for the year 2050 configuration.

The following is a list of documents used during the preparation of this report.

- Bay Area Regional Rail Tech Memo 3b Detail Technical Description of Study Alternatives Feb 9, 2007
- Bay Area Regional Rail Tech Memo 4a Conditions Conf. & Traffic on Existing Systems Nov 15, 2006
- Bay Area Regional Rail Tech Memo 4b Conceptual Civil Engineering & Major Bay Crossings April 4, 2007
- Bay Area Regional Rail Tech Memo 4d Signal & Communications Systems Engineering & Costs March 28, 2007
- Bay Area Regional Rail Tech Memo 4e Electrification System Engineering & Costs March 22, 2007
- Bay Area Regional Rail Tech Memo 4g Summary of Capacity Issues March 28, 2007
- Bay Area Regional Rail Tech Memo 4j Principal Stations/Terminals & Connectivity Plan January 31, 2007
- HSR Cost and Unit Prices spread sheet format
- FEIR Sonoma-Marin Area Rail Transit (SMART) June 2006
- Capitol Corridor Intercity Passenger Service Business Plan Update FY 2007-08 FY 208-09
- Communication and verbal input from CCJPA, BART, HSR team and Caltrain
- I-580 BART to Livermore Study Final Report
- Glen Park Community Park Workshop dated June 2003
- Cost Comparison of Completed and Planned BART Extensions Table (by BART) August 16, 2007

B. OPERATING COSTS

The operating costs developed in this study are in 2006 dollars for the service anticipated in the year 2050. The unit costs used in developing these operating costs were calculated from actual annual operating costs data and train service hours per year provided by BART and the Capitol Corridor for the year 2006. The service level used in this report for the year 2050, are as described in Tech Memo 3b.

CORRIDORS DESCRIPTION

1 - SMART CORRIDOR

Alternative 1 – Cloverdale to Larkspur

This alignment is similar to the SMART Corridor alignment described on the FEIR (June 2006) with additional improvements as listed below. Our estimated cost for this alignment is \$ 478 million and it includes:

- 14 stations as proposed on the FEIR (June 2006)
- 2,500' (762 meters) of track by-pass at each intermediate station.
- Site development/parking at each station.
- Does not include ROW acquisition (assumed that ROW is already owned by SMART)

In comparison the capital cost of the SMART corridor per FEIR is \$387 million. However this cost does not include additional by-pass track at each intermediate station (with its corresponding signaling). Also it does not include site development/parking at each of the 14 stations.

Alternative 2 - Cloverdale to Richmond

This alignment is similar to Alt.1 from Cloverdale to Larkspur and then continues across the bay through a new Richmond-San Rafael rail bridge and onto the Richmond BART/Capitol Corridor Station. The cost for this alternative is approx. \$1.78 billion and it includes:

- New Richmond-San Rafael rail bridge: \$763.5 million
- Purchasing 50 feet (15.24 meters) wide corridor of Right of Way acquisition and major utility relocation in Richmond.
- CTC signal system for the additional tracks

2 - Ignacio to Fairfield/Suisun

<u>Alternative 1:</u> The approx. cost of this alternative is \$322 million and it includes the following improvements:

- Single track with 2,500' (762 meters) station sidings
- Since the track classification throughout the entire length of this corridor is either FRA Class 1 or 2, we have assumed new track throughout the entire corridor.
- Assumed two new intermediate stations plus modification to the two connecting terminus stations with connections to Smart corridor and Sacramento to Richmond line respectively.
- Includes purchasing one half the available Right Of Way from the railroad. Leaving the short line in place.
- Assume purchase of 3 acres (1.214 hectares) of land per station for site development/parking.
- property acquisition at each station
- Includes a CTC signal system

Alternative 2: same as Alt.1

3 – SANTA HELENA TO VALLEJO

Alternative 1: The approx. cost of this alternative is \$418 million and it includes the following improvements:

- Single track with 2,500' (762 meters) station sidings
- Since the track classification throughout the entire length of this corridor is either FRA Class 1 or 2, we have assumed new track throughout the entire corridor.
- Eight new stations. Including one terminus stations at St. Helena, one terminus station at Vallejo with connection to the Ferry Terminal and six intermediate stations including one in Downtown Vallejo with connection to the Ignacio-Fairfield line.

- Includes purchasing one half the available Right Of Way from the railroad. Leaving the short line in place.
- Assume purchase of 3 acres (1.214 hectares) of land per station for site development/parking.
- Includes a CTC signal system

Alternative 2: same as Alt.1

4 - AUBURN TO SACRAMENTO

Alternative 1:

The estimated cost of this alternative is \$428 million and includes the following improvements:

- New third main track throughout the entire length of the corridor.
- 9 Grade separated crossings
- 4 Minor street closure
- New Swanson Sacramento Station with connection to Sacramento RT
- Sacramento Maintenance facility: \$50 million (per CCJPA)
- Assumes acquiring 3 Acres (1.214 hectares) of ROW for new station and 2 Acres (0.809 hectares) for maintenance facility.
- Includes a CTC signal system

Alternative 2:

The estimated cost of this alternative is \$895 million and includes the following improvements: Same as alternative 1 with the following exceptions:

- Alternative 2 it is a four track section, fully electrified.
- Includes purchasing 50 feet wide right-of-way corridor from the UPRR
- Requires a containment wall in the joint corridor with freight
- Includes a CTC signal system with cab signals

5 – SACRAMENTO TO RICHMOND

Alternative 1:

This segment goes from Sacramento to Richmond along the existing corridor through the Benicia rail bridge. The estimated cost of this alternative is \$1.02 billion and includes the following improvements:

- New third main track for the entire length of the existing corridor, except for the segment from Benicia through Martinez which remains a two track section through the existing Benicia rail bridge.
- Fairfield/Suisun Platform Rebuild: \$16 million
- Fairfield/Vacaville Station approximately \$45 million, including site development and parking
- Davis Station Platform Rebuild: \$20 million
- Hercules Station: \$15 million
- Fully grade separated crossings
- Secured fence throughout the entire corridor
- Does not require Right of Way Acquisition
- Includes a CTC signal system

Alternative 2

This segment goes along the existing corridor from Sacramento to Fairfield and then continues along a new alignment in the median of I-80 and through a new rail bridge at Carquinez to Hercules where it continues along the existing corridor to Richmond.

The estimated cost of this alternative is \$2.39 billion. It includes all the improvements mentioned in alternative 1 with the following additions and/or exceptions:

- Two new main tracks to make it a four track section (separating freight from passenger) throughout the entire length of the corridor.
- New 2 tracks alignment along the median of I-80 from Fairfield to Hercules, including new rail bridge through Carquinez.
- Fully electrified.

- Includes purchasing 50 foot wide corridor of right-of-way except for the corridor portion within the I-80 median
- Requires a containment wall in the joint corridor with freight
- Includes a CTC signal system with cab signals

6 - RICHMOND TO OAKLAND

Alternative 1:

The estimated cost of this alternative is \$716 million and includes the following improvements:

- Two new tracks to convert it into a four track corridor.
- Fully grade separated.
- Secured fence throughout the entire corridor
- Does not require Right of Way acquisition
- Includes a CTC signal system

Alternative 2:

The estimated cost for this alternative is \$867. It includes all the improvements of Alternative 1, plus the following:

- Includes purchasing 50 foot wide corridor of right-of-way from the UPRR.
- Purchasing 3 acres of land at each station: Richmond, Oakland, Emeryville and Berkeley
- One new station platform at each existing station.
- Fully electrified.
- Requires a containment wall in the joint corridor with freight
- Includes a CTC signal system with cab signals

7 - STOCKTON TO MARTINEZ (ALT. 1) STOCKTON TO RICHMOND (ALT. 2)

Alternative 1:

This alternative is a double track corridor that goes from Stockton to Port Chicago along the BNSF corridor and from Port Chicago to Martinez along the UPR corridor. The cost of this corridor is \$343 million and it includes the following improvements:

- New second main track from Stockton to Martinez
- Grade Separated Crossings
- Does not require Right of Way Acquisition
- Includes a CTC signal system

Alternative 2:

This alternative is a double track corridor that goes from Stockton to Richmond. The segment that goes from Stockton to Martinez is the same as Alternative 1. Then Alternative 2 continues for approximately 25 miles (40.234 km) along the UPRR corridor (currently route of Capitol Corridor, Amtrak and San Joaquin) to the Richmond Capitol Corridor/BART station.

Although this Alternative is longer than Alternative 1, the estimated cost of Alternative 2 is the same as Alternative 1 because the segment from Martinez to Richmond is in good condition: FRA Class 5. Therefore no new improvements were accounted for this Alternative from Martinez to Richmond.

8 - TRACY TO PITTSBURG

Alternative 1:

The approx. cost of this alternative is \$546 million and includes the following improvements:

- New single track with 2,500' (762 meters) station sidings throughout the corridor.
- Since the track classification throughout the entire length of this corridor is either FRA Class 1 or 2, we have assumed removal of existing track.
- Four new stations: Empire Ave, Central Blvd, Byron & Mountain House

- does not require a corridor Right of Way Acquisition, except assume 3 acres property acquisition at each station
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$893 million and includes the following improvements:

- Two new main tracks throughout the entire length of the corridor.
- Fully electrified.
- Four new Stations
- Includes purchasing 50 feet of new right-of way adjacent to the existing corridor. Assume 3 acres property acquisition at each station
- Includes a CTC signal system

9 - SACRAMENTO TO MERCED

Alternative 1:

The approx. cost of this alternative is \$2.8 billion and includes the following improvements:

- Two new main tracks throughout the entire length of the corridor.
- Entire corridor is grade separated.
- Eight new Stations
- Does not require corridor Right of Way Acquisition, except assume 3 acres property acquisition at each station
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$4.9 billion and includes the following improvements:

- Three new main tracks throughout the entire length of the corridor.
- Relocation of existing main track
- Entire corridor is grade separated.
- Fully electrified.
- Eight new Stations
- Eight minor crossings closure
- Includes purchasing 50 feet of new right-of way adjacent to the existing corridor, and assume 3 acres property acquisition at each station
- Includes a CTC signal system with cab signals

10 – Redwood Jct to Newark

Alternative 1:

The approx. cost of this alternative is \$321 million and includes the following improvements:

- One new main track with 2500' sidings at Menlo Park and Newark stations.
- The mainline track is reconstructed in existing alignment throughout the entire length of the corridor.
- Existing single track Hwy 101 Underpass does not need replacement and a second underpass will be constructed next to it.
- Grade separate Middlefield Rd (3 tracks)
- All new grade crossing equipment (No. 9s) and concrete crossing panels to replace existing.
- Purchase of 3 Acres of land at each station.
- New bridges are same length as existing.
- Dumbarton bridge is single tracked
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$710 million and includes the same improvements as Alternative 1 plus the following:

- Two new main tracks throughout the entire length of the corridor, including through Dumbarton.
- Entire corridor is electrified
- Includes a CTC signal system with cab signals

11 - Newark to Niles Jct

Alternative 1:

The approx. cost of this alternative is \$430 million and includes the following improvements:

- One new main track throughout the entire length of the corridor.
- Relocation of two existing main tracks.
- 8 Grade separate crossings
- 5 minor street closure
- 2 new stations (Fremont-Centerville & Newark)
- Includes purchasing 50 feet of new right-of way adjacent to the existing corridor, and assume 3 acres property acquisition at each station
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$547 million and includes the following improvements:

- Two new main tracks throughout the entire length of the corridor.
- Relocation of two existing main tracks.
- 8 Grade separate crossings
- 5 minor street closure
- 2 new stations (Fremont-Centerville & Newark)
- Entire corridor is electrified
- Includes purchasing 50 feet of new right-of way adjacent to the existing corridor, similar to HSR costs
- Includes a CTC signal system with cab signals

12 - Niles Jct to Pleasanton

Alternative 1:

The approx. cost of this alternative is \$93 million and includes the following improvements:

- One new main track throughout the entire length of the corridor.
- 5 Grade separate crossings at major arterial roads such as Niles Blvd, Mission Blvd and Niles Canyon Road (3).
- 1 minor street closure
- Does not require additional corridor right of Way
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$1.04 billion and includes the following improvements:

- Three new main tracks throughout the entire length of the corridor.
- Relocation existing main tracks.
- 10 Grade separate crossings
- 1 minor street closure
- Entire corridor is electrified
- Includes purchasing 60 feet of new right-of way at each end of the tunnel and subsurface easements through the canyon. Similar to HSR costs.
- Includes a CTC signal system with cab signals

13 - Pleasanton to Livermore

Alternative 1:

The approx. cost of this alternative is \$236 million and includes the following improvements:

- Existing track remains in place
- Two new main tracks throughout the entire length of the corridor.
- 8 Grade separated crossings
- 3 Minor street closure
- 2 New stations
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$581 million and includes the following improvements:

- Three new main tracks throughout the entire length of the corridor.
- Relocation existing main tracks.
- 3 Minor street closure
- 8 Grade separated crossings
- Over 9 km of new trackway on elevated structure.
- 3 new stations
- Entire corridor is electrified
- Includes purchasing 50 feet of new right-of way, similar to HSR costs, and assume 3 acres property acquisition at each new station
- Includes a CTC signal system with cab signals
- Requires a containment wall in the joint corridor with freight

14 – Livermore to Tracy

Alternative 1:

The approx. cost of this alternative is \$162 million and includes the following improvements:

- Existing track remains in place
- One new main track throughout the entire length of the corridor.
- 5 Grade separate crossings
- 3 Minor street closure
- 2 New stations
- Does not require additional corridor right of Way
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$1.17 billion and includes the following improvements:

- Two new main tracks along new corridor on elevated structure.
- Relocation existing main tracks.
- 7 Grade separate crossings
- 2 New Stations
- Entire corridor is electrified
- Includes purchasing 100 feet of new right-of way, similar to HSR costs
- Includes a CTC signal system with cab signals

15 - Tracy to Stockton

Alternative 1:

The approx. cost of this alternative is \$303 million and includes the following improvements:

- Existing track remains in place
- One new main track throughout the entire length of the corridor.

- Reconstruction of Lathrop station platform
- New station at Tracy
- 3 Grade separate crossings
- 8 Grade Crossing Improvements
- Includes a CTC signal system
- Does not require additional corridor right of Way
- Assumed 3 acres of ROW at Tracy station

Alternative 2:

The approx. cost of this alternative is \$763 million and includes the following improvements:

- Three new main tracks along entire corridor.
- Relocation existing main track.
- Includes the double track segment of the Wye that connects to the Sacramento-Merced line south of Manteca
- 11 Grade separate crossings
- Reconstruction of Lathrop station platform
- New Station at Tracy
- Entire corridor is electrified
- Right of Way cost per HSR estimate plus 3 acres of ROW at Tracy station
- Includes a CTC signal system with cab signals

16 - Tracy to Patterson

Alternative 1:

The approx. cost of this alternative is \$123 million and includes the following improvements:

- One new main track throughout the entire length of the corridor.
- Removal of existing track
- 4 minor crossing closure
- 19 Grade Crossing Improvements
- Two new Stations
- Does not require additional corridor right of Way except for 3 acres property acquisition at each station
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$354 million and includes the following improvements:

- Two new main tracks throughout the entire length of the corridor.
- Removal of existing track
- One major grade separated crossing at McArthur Dr. in Tracy.
- 5 minor crossing closure
- Entire corridor is electrified
- Two new Stations
- Includes purchasing 50 feet of new right-of way, and assume 3 acres property acquisition at each station
- Includes a CTC signal system with cab signals

17 - Oakland to San Jose

Alternative 1:

The approx. cost of this alternative is \$924 million and includes the following improvements:

- Existing track remains in place
- Assume exclusive passenger service on the Oakland Sub from San Leandro to Fremont.
- Construct one new main track throughout the entire length of the corridor. Incorporate sidings onto second main track.

- Assume exclusive freight service on the Niles Sub.
- Install new connection between Oakland Sub and Centerville Line at Shinn
- Install new connection (150' double track bridge over Alameda Creek) for Niles Sub to UP Niles Canyon movements.
- Install new Systems elements on all corridors
- 15 grade separated crossings.
- 68 Grade Crossing Improvements
- Station improvements required at West Oakland, Hayward and Santa Clara.
- Assume 3 acres property acquisition at each station.
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$3.12 billion and includes the following improvements:

- Three new main tracks along entire corridor.
- For passenger tracks assume they will be all new improvements on HSR alignment. Therefore used HSR cost estimate from W. Oakland to Diridon (Santa Clara per HSR segment map). Also see separate HSR cost estimate for passenger stations at W. Oakland, 12th Street Downtown Oakland, Oakland Coliseum/Airport, Union City BART, Union City Shinn, Fremont (Warm Springs).
- Assume a second main will be constructed for UPRR on Oakland Sub south of Melrose and for Coast Sub from Newark to Santa Clara.
- 38 Grade separate crossings
- Entire corridor is electrified
- Right of Way cost per HSR estimate
- Includes a CTC signal system with cab signals

18 – San Francisco to San Jose

Alternative 1:

The approx. cost of this alternative is \$5.24 billion and includes the following improvements:

- Two new main tracks
- One new Station at Transbay
- Major station Improvements at: 4th & King, Diridon, Millbrae and Palo Alto
- 46 grade separated crossings.
- Fully electrified
- Includes a CTC signal system with cab signals

Alternative 2: Same as Alternative 1

19 - San Jose to Gilroy

Alternative 1:

The approx. cost of this alternative is \$352 million and includes the following improvements:

- Existing track remains in place
- Incorporate existing second mainline (sidings) into the new second track. Assume existing second mainline does not need reconstruction.
- Modify each station to accommodate second track.
- Assume expansion of site development/parking for station modifications. Assume acquisition of 3
 acres for each station to be modified/expanded.
- 2 Grade separate crossings
- 7 Minor street closure
- 6 New stations
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$1.14 billion and includes the following improvements:

- Two new main tracks along new corridor on elevated structure. (As an alternative the Monterrey highway could be relocated to make room for the new tracks).
- Relocation existing main tracks.
- 23 Grade separate crossings
- 6 New Stations
- Entire corridor is electrified
- Includes purchasing 50 feet of new right-of way, and assume 3 acres property acquisition at each station
- Includes a CTC signal system with cab signals for the passenger line and a CTC signal system for the relocated freight lines.

20 - Gilroy to Salinas

Alternative 1:

The approx. cost of this alternative is \$288 million and includes the following improvements:

- Existing track remains in place
- New Second main. Incorporate existing siding into the new second track. Assume existing second mainline does not need reconstruction.
- Assume Bloomfield Rd is to be grade separated per R. Scales
- 21 minor street closure
- Add a universal crossover at each station. Cost considered as included in track cost as there is no separate cost item for track crossovers.
- Assume existing bridges to remain. Construct new bridges for new second track.
- Add suburban station, service building and parking lot at Pajaro.
- Add suburban rural station, service building and parking lot at Castroville.
- Assume no cost for right of way to add second track. It will be donated by UPRR in exchange for increase in corridor capacity from second track.
- All new grade crossing equipment (two No.9s and concrete crossing panels) to replace existing equipment where second track is being added.
- Existing grade crossing equipment on existing two tracks crossing to remain as is in service.
- Includes a CTC signal system

Alternative 2:

Same as Alternative 1.

21 - Santa Cruz to Watsonville Jct.

Alternative 1:

The approx. cost of this alternative is \$616 million and includes the following improvements:

- Existing track remains in place
- Assume all bridges to be replaced due to poor condition
- Due to light train volumes assume no new grade separations.
- 10 new stations
- Assume each station and lot will require purchase of 2 acres of suburban property on average.
- Assume a 2500' station siding track at Santa Cruz, Seascape and New Brighton stations.
- Assume no station buildings required.
- Includes a CTC signal system

Alternative 2:

Same as Alternative 1.

22 - Castroville to Monterey.

Alternative 1:

The approx. cost of this alternative is \$253 million and includes the following improvements:

- Existing track remains in place
- Due to light train volumes assume no new grade separations.
- 4 New stations: Marina, CSU Monterey, Seaside and Monterey (downtown)
- Assume no station buildings required.
- 2 Minor street closure
- 20 Grade crossing Improvements
- Assume signaling, communications and wayside protection systems
- Assume each station will require purchase of 2 acres of property.
- Includes a CTC signal system

Alternative 2:

Same as Alternative 1.

23 - Gilroy to Hollister.

Alternative 1:

The approx. cost of this alternative is \$88 million and includes the following improvements:

- The estimate under this corridor is for Carnadero to Hollister. The costs for Gilroy to Canardero were included in the Gilroy to Salinas estimate.
- Removal of existing track
- One new main track with station sidings
- Due to light train volumes assume no new grade separations.
- One new station at Hollister with parking lot located south of Fourth Street.
- Assume purchase of 3 acres of land per station for site development/parking.
- 12 Minor street closure
- 12 Grade crossing Improvements. Assume all new grade crossing equipment to replace existing.
- Assume signaling, communications and wayside protection systems
- Includes a CTC signal system

Alternative 2:

The approx. cost of this alternative is \$241 million. This Alternative is similar to Alternative 1 except for the following:

- Fully grade separated
- Fully electrified
- Includes a CTC signal system with cab signals

24 - West Oakland to San Francisco Regional Rail (Alt 2 only)

Alternative 2:

The approx. cost of this alternative is \$2.12 billion and includes the following improvements:

- Double track TBM tunnel
- One station
- Includes CTC signaling with cab

25 - BART Fremont to Martinez (Alt 1 only)

Alternative 1:

The approx. cost of this alternative is \$3.9 billion and includes the following improvements:

Double track BART corridor along the median of I-680

- 15 foot easement from Caltrans right of Way
- Eight stations: Martinez, Pacheco, Pleasant Hill, Danville, San Ramon, Dublin/Pleasanton, Pleasanton, Irvington
- Assume purchase of 3 acres of land per station for site development/parking.
- Includes ATC signaling

26 - BART Oakland 4th Track (Alt 1 only)

Alternative 1:

The approx. cost of this alternative is \$317 million.

A detailed cost breakdown was developed for this alternative and submitted under separate cover on December 5, 2006. A copy of this report is included in the Appendix.

27 - BART Bay Crossing - West Oakland Wye to Geary Corridor (Alt 1 only)

Alternative 1:

The approx. cost of this alternative is \$11.9 billion.

A detailed cost breakdown was developed for this alternative and submitted under separate cover on December 5, 2006. A copy of this report is included in the Appendix.

28 - BART Extension to Livermore: Dublin to Greenville (ALT1) to Isabel (ALT 2)

The cost for these alternatives are based on the costs listed on the Final Report for I-580 BART to Livermore Study, escalated to 2006 dollars.

Alternative 1: Dublin to Greenville:

The approx. cost of this alternative was estimated between \$1 and \$1.2 billion for this alternative depending on whether Caltrans implements the HOV lane project or not, respectively. For the purpose of this study, the larger of these figures was used. This alternative includes:

- Double track BART corridor Approx. 9.9 miles (15.93 km) long
- Alignment runs along the median of I-580
- Two new stations
- Layover yard at end of line

Alternative 2 Dublin to Isabel:

The approx. cost of this alternative was estimated between \$514 and \$650 million with and without Caltrans HOV lanes project respectively. The larger of these figures was carried on throughout this study. This alternative includes the following improvements:

- Double track BART corridor Approx. 5 miles (8.10 km) long
- Alignment runs along the median of I-580
- One new station at Isabel
- Layover yard at end of line

39 - BART Extension to Hercules (ALT1 only)

Alternative 1:

The approx. cost of this alternative is \$1.6 billion and includes the following improvements

- Double track BART corridor from the existing Richmond BART station to Approx. 10.87 miles (17.5 km) long
- Four new stations: San Pablo, Hilltop Parkway, Sycamore East & Crockett East
- New yard at Richmond
- Purchase a 50' strip of right of way along the corridor, except for the tunnel segments.
- Assume purchase of 3 acres of land per station for site development/parking.
- Assumed purchasing 2 acres of land for Yard.

31 - BART Fremont to Warm Springs

Alternative 1:

The approx. cost of this alternative is \$759 million, per "BART Warm Springs Extension Final Environmental Impact Statement" dated June 2006, escalated from 2004 to 2006 dollars.

32 - BART Warm Springs to San Jose

Alternative 1:

The approx. cost of this alternative is \$ 4.98 billion per SVRT project estimate escalated from 2005 dollars to 2006 dollars.

33 to 38 - BART Infield Stations

The costs for these stations were either based on estimates from previous studies or actual construction costs provided by BART for similar BART stations, escalated to 2006 dollars when appropriate. These Infield Stations and their respective costs are listed in the cost summary table on page 5.

APPENDIX COST ESTIMATES

Bay Area Regional Rail Plan - Alternatives 1 and 2 Cost Summary Table

	STUDIED CORRIDORS	Cost Su (rounded up to	
		Study Alternative 1	Study Alternative 2
	US 101 North (San Francisco to Cloverdale)	\$478,000,000	\$1,775,000,000
1	Smart Corridor Cloverdale to Larkspur (Alt 1) to Richmond (Alt 2) - Alt 2 includes new Richmond rail bridge.	\$478,000,000	\$1,775,000,000
	North Bay (US 101 to I-80)	\$740,000,000	\$740,000,000
2	Ignacio to Fairfield/Suisun	\$322,000,000	\$322,000,000
3	St Helena to Vallejo	\$418,000,000	\$418,000,000
	I-80 (Auburn to Oakland)	\$2,164,000,000	\$4,149,000,000
4	Auburn to Sacramento	\$428,000,000	\$895,000,000
5	Sacramento to Richmond	\$1,020,000,000	\$2,387,000,000
6	Richmond to Oakland	\$716,000,000	\$867,000,000
	Central Valley	\$3,685,000,000	\$6,099,000,000
7	Stockton to Martinez (Alt.1) to Richmond (Atl. 2)	\$343,000,000	\$343,000,000
8	Tracy to Pittsburg (Alternative 2 has double track)	\$546,000,000	\$893,000,000
9	Sacramento to Merced	\$2,796,000,000	\$4,863,000,000
	Dumbarton	\$751,000,000	\$1,257,000,000
10	Redwood Jct. to Newark	\$321,000,000	\$710,000,000
11	Newark to Niles Junction	\$430,000,000	\$547,000,000
	Tri-Valley	\$917,000,000	\$3,900,000,000
12	Niles JCT to Pleasanton	\$93,000,000	\$1,035,000,000
	Pleasanton to Livermore	\$236,000,000	\$581,000,000
14	Livermore to Tracy	\$162,000,000	\$1,167,000,000
15	Tracy to Stockton	\$303,000,000	\$763,000,000
16	Tracy to Patterson	\$123,000,000	\$354,000,000
	East Bay (Oakland to San Jose)	\$924,000,000	\$3,129,000,000
17	Oakland to San Jose	\$924,000,000	\$3,129,000,000
	Peninsula (San Francisco to San Jose)	\$5,237,000,000	\$5,237,000,000
18	San Francisco to San Jose	\$5,237,000,000	\$5,237,000,000
	South Counties	\$1,597,000,000	\$2,535,000,000
19	San Jose to Gilroy	\$352,000,000	\$1,137,000,000
	Gilroy to Salinas	\$288,000,000	\$288,000,000
21	Santa Cruz to Watsonville Jct.	\$616,000,000	\$616,000,000
22	Castroville to Monterey	\$253,000,000	\$253,000,000
23	Gilroy to Hollister	\$88,000,000	\$241,000,000
	Transbay		\$2,123,000,000
24	West Oakland to San Francisco Regional Rail (Alt 2 only)	NA	\$2,123,000,000
	BART Corridors (current eBART alignment is included in the Tri-Valley corridors)	\$25,740,000,000	\$6,454,000,000
25	BART Freemont to Martinez (I-680) (Alt 1 only)	\$3,933,000,000	NA
26	BART Oakland 4th Track (Alt1 only)	\$317,000,000	NA
27	Bay Crossing BART West Oakland Wye to Presidio/Geary Corridor (Alt 1 only)	\$11,969,000,000	NA
_	Bart Extension to Livermore: Dublin to Greenville (Alt 1) to Isabel (Alt 2) - per I-580 BART to Livermore FSR	\$1,212,000,000	\$650,000,000
_	Bart Extension to Hercules (Alt 1)	\$1,620,000,000	NA
30	Bart Fremont to Warm Springs (per BART WSX EIS dated June 2006, escalated from 2004 to 2006 dollars)	\$759,000,000	\$759,000,000
1	Bart Warm Springs to San Jose (per SVRT Project Estimate, escalated from 2005 to 2006 dollars)	\$4,983,000,000	\$4,983,000,000
_	Bart Infill Station - West Dublin (incl. two ped grade sep. Xsings and two parking structures, per final const. cost)	\$62,000,000	\$62,000,000
32		¢on nnn non	
32 33	Bart Infill Station - Irvington (Incls. Int. Facility per BART WSX FEIS dated June 2006, escalated to 2006 dollars)	\$89,000,000 \$60,000,000	NA NA
32 33 34	Bart Infill Station - Irvington (Incls. Int. Facility per BART WSX FEIS dated June 2006, escalated to 2006 dollars) Bart Infill Station - Calaveras	\$60,000,000	NA
32 33 34 35	Bart Infill Station - Irvington (Incls. Int. Facility per BART WSX FEIS dated June 2006, escalated to 2006 dollars) Bart Infill Station - Calaveras Bart Infill Station - Albany	\$60,000,000 \$52,000,000	NA NA
32 33 34 35 36	Bart Infill Station - Irvington (Incls. Int. Facility per BART WSX FEIS dated June 2006, escalated to 2006 dollars) Bart Infill Station - Calaveras	\$60,000,000	NA
32 33 34 35 36 37	Bart Infill Station - Irvington (Incls. Int. Facility per BART WSX FEIS dated June 2006, escalated to 2006 dollars) Bart Infill Station - Calaveras Bart Infill Station - Albany Bart Infill Station - Union City (incl. line relocation. & site Imprvmt. per UC Study dated May 2005 escalated. to 2006 dollars)	\$60,000,000 \$52,000,000 \$110,000,000	NA NA NA

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		SMART	CORRIDOR		NOTES
	SSST ELEMENTS	ONT	2006)	Altern	ative 1	Alteri	native 2	110125
Align	ment Cost			Quantities	Item Cost	Quantities	Item Cost	
	Items							
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	0.000	\$0 \$0	0.000	\$0 \$0	
	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	120.184 0.000	\$59,681,383 \$0	120.184 19.762	\$59,681,383 \$18,558,915	Incl. Sta. sidings (0.762km X 14 stations)
7	Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade Freight Single Track - At-Grade	km km	\$993,167 \$496,583	0.000	\$0 \$0	0.000	\$0 \$0	
11	Four-track construction or reconstruction	km	\$1,887,657	0.000	\$0	0.000	\$0	
	crossovers work Items	ea	\$1,000,000	0.000	\$0	0.000	\$0	
	Site Preparation - Undeveloped	Hectares	\$12,081	0.000	\$0	0.000	\$0	
	Total Cut	m3	\$9	0.000	\$0	0.000	\$0	
	Total Fill Borrow	m3 m3	\$9 \$13	0.000	\$0 \$0	0.000	\$0 \$0	
	Spoil	m3	\$0	0.000	\$0	0.000	\$0	
	Landscape/Erosion Control	Hectares	\$8,075	0.000	\$0	0.000	\$0	
	Security Fencing (Both Sides of R/W) Special Drain. Facilities (5% of Earthwork Cost)	km	\$101,733	0.000	\$0 \$0	0.000	\$0 \$0	
Struc	tures, Tunnels, Walls	•						
	Standard Structure High Structure	km	\$13,733,933 \$16,480,720	0.000	\$0 \$0	0.000	\$0 \$0	
	Long Span Structure	km km	\$16,480,720 \$37,577,568	0.000	\$0 \$0	0.000	\$0 \$0	
4	Waterway Crossing - New Rail Bridge (inc. approaches.)	km	\$115,945,330	0.000	\$0	6.585	\$763,500,000	
	Waterway Crossing - Secondary (Irrig./Canal Crossing) Twin Single Track Drill & Blast (<6 Miles)	km km	\$23,119,226 \$75,040,254	0.000	\$0 \$0	0.000	\$0 \$0	
	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km	\$75,040,254 \$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast Double Track Mined (Soft Soil)	km km	\$83,740,573 \$96,247,282	0.000	\$0 \$0	0.000	\$0 \$0	
	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0 \$0	0.000	\$0	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
	Trench Short Trench Long	km km	\$49,668,587 \$39,272,836	0.000	\$0 \$0	0.000	\$0 \$0	
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.000	\$0	0.000	\$0	
	Retaining Walls	km	\$4,399,945	0.000	\$0	0.000	\$0	
	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.000	\$0 \$0	0.000	\$0 \$0	
Grad	e Separations							
	Street Overcrossing RR - (Urban) Street Overcrossing RR - (Suburban)	ea ea	\$17,167,417 \$6,485,469	0.000	\$0 \$0	0.000	\$0 \$0	
	Street Overcrossing RR - (Subdibarr) Street Overcrossing RR - (Undeveloped)	ea	\$1,093,628	0.000	\$0	0.000	\$0	
	Street Undercrossing RR - (Urban)	ea	\$17,930,413	0.000	\$0	0.000	\$0	
	Street Undercrossing RR - (Suburban) Street Undercrossing RR - (Undeveloped)	ea ea	\$6,866,967 \$1,157,211	0.000	\$0 \$0	0.000	\$0 \$0	
7	Minor crossing closures	ea	\$178,032	0.000	\$0	0.000	\$0	
	ons, Including Parking		**********	0.000	*0	0.000	*0	
	Terminal Site Development/Parking (Terminal Station)	LS LS	\$106,346,890 \$26,586,722	0.000	\$0 \$0	0.000	\$0 \$0	
3	Urban	LS	\$53,173,445	0.000	\$0	0.000	\$0	
	Site Development/Parking (Urban Station)	LS	\$13,293,361	0.000	\$0	0.000	\$0	
	Suburban (Larkspur Station) Site Development/Parking (Suburban Station)	LS	\$26,586,722 \$6,646,681	1.000	\$26,586,722 \$6,646,681	1.000	\$26,586,722 \$6,646,681	
7	Rural	LS	\$13,293,361	13.000	\$172,813,696	13.000	\$172,813,696	
	Site Development/Parking (Rural Station) Modification to the Richmond Station	LS LS	\$2,658,672 \$26,586,722	13.000 0.000	\$34,562,739 \$0	13.000 1.000	\$34,562,739 \$26,586,722	
	s and Shops	LJ	ψ 2 0,300,122		\$0		Ψ20,300,122	
1		km	\$0	0.000	\$0	0.000	\$0	
3		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
4		km	\$0	0.000	\$0	0.000	\$0	
	and Utility Relocation	lim	61 371 / /4	0.000	60	0.000	60	
	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661	0.000	\$0 \$0	0.000	\$0 \$0	
3	Single Track Removal	km	\$63,372	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Dense Urban Major Utility Relocations - Urban	km km	\$890,162 \$680,338	0.000	\$0 \$0	0.000	\$0 \$0	
	Major Utility Relocations - Urban Major Utility Relocations - Dense Suburban	km km	\$680,338 \$476,873	0.000	\$0 \$0	13.177	\$6,283,751	
7	Major Utility Relocations - Suburban	km	\$273,407	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Undeveloped	km	\$13,988	0.000	\$0	0.000	\$0	
	Right-of-Way Required for Each Segment				\$0		\$41,253,873	
	Dense Urban	Hectares	\$4,106,412	0.000	\$0	10.046	\$41,253,873	
<u> </u>	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804	0.000	\$0 \$0	0.000	\$0 \$0	
	Suburban	Hectares	\$479,081	0.000	\$0	0.000	\$0	
	Undeveloped Pight of Way Poquired for Passanger Station & Parking	Hectares	\$342,201	0.000	\$0	0.000	\$0	
2	Right-of-Way Required for Passenger Station & Parking Facilities	<u></u>			\$0		\$0	
	Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
<u> </u>	Urban Dense Suburban	Hectares Hectares	\$0 \$1,368,804	0.000	\$0 \$0	0.000	\$0 \$0	
	Suburban Suburban	Hectares	\$1,368,804	0.000	\$0	0.000	\$0 \$0	
	Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
	Right-of-Way Required for Maintenance and Storage Facility				\$0		\$0	
	onmental Mitigation ironmental Mitigation (3% of Line Cost)				\$0,000,727		\$24.404.224	
	em Elements				\$9,008,737		\$34,694,234	
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COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		SMART (NOTES	
		2006)	Altern	ative 1	Alteri	native 2	
Alignment Cost	Quantities	Item Cost	Quantities	Item Cost			
1 Signaling (ATC)	km	\$845,654	0.000	\$0	0.000	\$0	
2 Signaling (CTC with cab signals)(per track km)	km	\$115,625	0.000	\$0	0.000	\$0	
3 Signaling (CTC) single track	km	\$93,750	120.184	\$11,267,250	139.946	\$13,119,938	
4 Signaling (CTC) double track	km	\$178,125	0.000	\$0	0.000	\$0	
5 Communications (w/Fiber Optic Backbone)	km	\$699,413	0.000	\$0	0.000	\$0	
6 Wayside Protection System	km	\$67,144	0.000	\$0	0.000	\$0	
Electrification Items							
1 Traction Power Supply	km	\$432,365	0.000	\$0	0.000	\$0	
2 Traction Power Distribution	km	\$806,233	0.000	\$0	0.000	\$0	
Program Implementation Costs (Design, CM & Ag	ency Cost	t)					
Program Implementation Costs (25.5% Total Constr. & Procurement C	Cost)			\$79,447,410		\$287,726,839	
Contingencies							
Contingencies (25% of Total Construction Cost)				\$77,889,618		\$282,085,137	
Total Construction				\$311,558,470		\$1,128,340,546	
Total Construction and ROW (Incl. Envir. Mitgtn)				\$320,567,207		\$1,204,288,653	
Grand Total				\$477,904,234		\$1,774,100,629	

COST ELEMENT	rs unit	UNIT PRICE (YR NOV-	IG	NACIO TO FAI	RFIELD/SUIS	UN	NOTES
		2006)	Altern	ative 1	Altern	ative 2	
Alignment Cost			Quantities	Item Cost	Quantities	Item Cost	
Track Items							
Double Track Section - At-Grade Double Track Section - On Structure	e km	\$993,167 \$1,878,243	0.000	\$0 \$0	0.000	\$0 \$0	
3 Double Track Section - In Tunnel of		\$1,878,243	0.000	\$0	0.000	\$0	
4 Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0	
Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	64.288 0.000	\$31,924,355 \$0	64.288 0.000	\$31,924,355 \$0	Incl. Sta. sidings (0.762km X 2 stations)
7 Single Track Section - On Structure		\$939,121	0.000	\$0 \$0	0.000	\$0	
8 Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
9 Freight Double Track - At-Grade	km	\$993,167	0.000	\$0	0.000	\$0	
10 Freight Single Track - At-Grade 11 Four-track construction or reconstr	uction km	\$496,583 \$1,887,657	0.000	\$0 \$0	0.000	\$0 \$0	
12 Crossovers	ea	\$1,000,000	0.000	\$0	0.000	\$0	
Earthwork Items							
1 Site Preparation - Undeveloped	Hectares	\$12,081 \$9	0.000	\$0 \$0	0.000	\$0 \$0	
2 Total Cut 3 Total Fill	m3 m3	\$9	0.000	\$0	0.000	\$0	
4 Borrow	m3	\$13	0.000	\$0	0.000	\$0	
5 Spoil	m3	\$0	0.000	\$0	0.000	\$0	
4 Landscape/Erosion Control 5 Security Fencing (Both Sides of R/	W) Hectares	\$8,075 \$101,733	0.000	\$0 \$0	0.000	\$0 \$0	
6 Special Drain. Facilities (5% of Ear		\$101,733	0.000	\$0	0.000	\$0	
Structures, Tunnels, Walls							
1 Standard Structure	km	\$13,733,933	0.000	\$0	0.000	\$0	
2 High Structure 3 Long Span Structure	km km	\$16,480,720 \$37,577,568	0.000	\$0 \$0	0.000	\$0 \$0	
4 Waterway Crossing - Primary	km	\$28,876,734	0.000	\$0 \$0	0.000	\$0	
5 Waterway Crossing - Secondary (I	rig./Canal Crossing) km	\$23,119,226	0.000	\$0	0.000	\$0	
6 Twin Single Track Drill & Blast (<6		\$75,040,254	0.000	\$0 \$0	0.000	\$0 \$0	
7 Twin Single Track TBM (<6 Miles) 8 Twin Single Track TBM w/3rd Tube	km e (>6 Miles) km	\$55,464,535 \$78,846,643	0.000	\$0 \$0	0.000	\$0 \$0	
Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
10 Double Track Mined (Soft Soil)	km	\$96,247,282	0.000	\$0	0.000	\$0	
11 Seismic Chamber (Drill & Blast/Min 12 Cut & Cover Double Track Tunnel	ed) ea km	\$94,803,899 \$48,123,641	0.000	\$0 \$0	0.000	\$0 \$0	
13 Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
14 Trench Long	km	\$39,272,836	0.000	\$0	0.000	\$0	
15 Mechanical & Electrical for Tunnels		\$1,931,362	0.000	\$0	0.000	\$0	
16 Retaining Walls 17 Containment Walls	km km	\$4,399,945 \$1,500,559	0.000	\$0 \$0	0.000	\$0 \$0	
18 Single Track Cut and Cover Subwa		\$30,077,276	0.000	\$0	0.000	\$0	
Grade Crossings							
Allawance for Grade Crosing Impro Street Overcrossing RR - (Suburba		\$650,000 \$6,485,469	1.000 0.000	\$650,000	1.000 0.000	\$650,000	
3 Street Overcrossing RR - (Suburba		\$1,093,628	0.000	\$0 \$0	0.000	\$0 \$0	
4 Street Undercrossing RR - (Urban)	ea	\$17,930,413	1.000	\$17,930,413	1.000	\$17,930,413	
5 Street Undercrossing RR - (Suburb		\$6,866,967	0.000	\$0	0.000	\$0	
6 Street Undercrossing RR - (Undeve 7 Minor crossing closures		\$1,157,211 \$178,032	0.000 2.000	\$0 \$356,065	0.000 2.000	\$0 \$356,065	
Stations, Including Parking	ea	\$170,032	2.000	\$300,000	2.000	\$350,065	
1 Terminal	LS	\$106,346,890	0.000	\$0	0.000	\$0	
2 Site Development/Parking (Termin		\$26,586,722	0.000	\$0	0.000	\$0	
3 Urban 4 Site Development/Parking (Urban	Station) LS	\$53,173,445 \$13,293,361	0.000	\$0 \$0	0.000	\$0 \$0	
5 Suburban	LS	\$26,586,722	0.000	\$0	0.000	\$0	
6 Site Development/Parking (Suburb		\$6,646,681	0.000	\$0	0.000	\$0	
1 Station	LS	\$13,293,361	2.000	\$26,586,722	2.000	\$26,586,722	
2 Site Development/Parking (Rural S 9 Parking - Structure	tation) LS space	\$2,658,672 \$15,886	2.000 0.000	\$5,317,344 \$0	2.000 0.000	\$5,317,344 \$0	
10 Parking - At Grade	space	\$2,277	0.000	\$0	0.000	\$0	
Yards and Shops							
1 2	km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
3	km	\$0	0.000	\$0 \$0	0.000	\$0	
4	km	\$0	0.000	\$0	0.000	\$0	
Rail and Utility Relocation	νλ Ι I	¢4 074 / 14	0.000	A-0	0.000	40	
Single Track Relocation (Temporar Single Track Relocation (Permaner		\$1,271,661 \$1,271,661	0.000	\$0 \$0	0.000	\$0 \$0	
3 Single Track Removal	km	\$63,372	62.764	\$3,977,511	62.764	\$3,977,511	
4 Major Utility Relocations - Dense U	rban km	\$890,162	0.000	\$0	0.000	\$0	
5 Major Utility Relocations - Urban 6 Major Utility Relocations - Dense S	km km	\$680,338 \$476,873	0.000	\$0	0.000	\$0	
7 Major Utility Relocations - Dense S 7 Major Utility Relocations - Suburba		\$476,873	62.764	\$0 \$17,160,117	0.000 62.764	\$0 \$17,160,117	
8 Major Utility Relocations - Undevel		\$13,988	0.000	\$17,100,117	0.000	\$17,100,117	
Right of Way Items				#104.400.1/F		#10.4.4co ::-	
1 Right-of-Way Required for Each Se Dense Urban	gment Hectares	\$4,106,412	0.000	\$134,108,463 \$0	0.000	\$134,108,463 \$0	
Urban	Hectares	\$2,737,608	0.000	\$0 \$0	0.000		Assumed a 50' wide strip
Dense Suburban	Hectares	\$1,368,804	97.975	\$134,108,463	97.975	\$134,108,463	·
Suburban	Hectares	\$479,081	0.000	\$0	0.000	\$0	
Undeveloped Right-of-Way Required for Passenge	Hectares per Station & Parking	\$342,201	0.000	\$0	0.000	\$0	
Facilities	-			\$3,323,456		\$3,323,456	
Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
Urban Donso Suburban	Hectares	\$2,737,608	0.000	\$0 \$2,222,456	0.000		Assumed 3 acres (1.214 hect.) per Station
Dense Suburban Suburban	Hectares Hectares	\$1,368,804 \$479,081	2.428 0.000	\$3,323,456 \$0	2.428 0.000	\$3,323,456 \$0	
Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
3 Right-of-Way Required for Mainter	ance and Storage Facility			\$0		\$0	
	,	I .		\$0		\$0	
Environmental Mitigation							

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COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-	IG	NACIO TO FAI	NOTES		
		2006)	Altern	ative 1	Altern	ative 2	
Alignment Cost	Quantities	Item Cost	Quantities	Item Cost			
System Elements							
1 Signaling (CTC) single track	km	\$93,750	64.288	\$6,027,000	64.288	\$6,027,000	
2 Signaling (CTC with cab signals)(per track km) km \$115,625			0.000	\$0	0.000	\$0	
3 Signaling (CTC) double track	km	\$178,125	0.000	\$0	0.000	\$0	
Electrification Items							
1 Traction Power Supply	km	\$432,365	0.000	\$0	0.000	\$0	
2 Traction Power Distribution	km	\$806,233	0.000	\$0	0.000	\$0	
Program Implementation Costs (Design, CM & Ag	ency Cos	it)					
Program Implementation Costs (25.5% Total Constr. & Procurement	nt Cost)			\$28,032,030		\$28,032,030	
Contingencies							
Contingencies (25% of Total Construction Cost)				\$38,475,335		\$38,475,335	
Total Construction				\$109,929,529		\$109,929,529	
Total Construction and ROW (Incl. Envir. Mitgtn)				\$254,601,482		\$254,601,482	
Grand Total				\$321,108,847		\$321,108,847	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		SANTA HELEN	A TO VALLEJO)	NOTES
			2006)	Altern	ative 1	Altern	ative 2	
Alignn	nent Cost			Quantities	Item Cost	Quantities	Item Cost	
	Double Track Section - At-Grade	km	\$993,167	0.000	\$0	0.000	\$0	
	Double Track Section - At-Grade Double Track Section - On Structure	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Double Track Section - In Trench Single Track Section - At Grade	km km	\$1,878,243 \$496,583	0.000 57.851	\$0 \$28,727,848	0.000 57.851	\$0 \$28,727,848	Incl. siding at two stations.
	Single Track Section - At Grade Single Track Section - On Structure	km	\$939,121	0.000	\$20,727,848	0.000	\$20,727,648	mei. siding at two stations.
	Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Section - In Trench Freight Double Track - At-Grade	km km	\$939,121 \$993,167	0.000	\$0 \$0	0.000	\$0 \$0	
	Freight Single Track - At-Grade	km	\$496,583	0.000	\$0	0.000	\$0	
	Four-track construction or reconstruction	km	\$1,887,657	0.000	\$0	0.000	\$0	
	Crossovers Work Items	ea	\$1,000,000	0.000	\$0	0.000	\$0	
	Site Preparation - Undeveloped	Hectares	\$12,081	0.000	\$0	0.000	\$0	
	Total Cut	m3	\$9	0.000	\$0	0.000	\$0	
	Total Fill Borrow	m3 m3	\$9 \$13	0.000	\$0 \$0	0.000	\$0 \$0	
	Spoil	m3	\$0	0.000	\$0	0.000	\$0	
	Landscape/Erosion Control	Hectares	\$8,075	0.000	\$0	0.000	\$0	
	Security Fencing (Both Sides of R/W) Special Drain. Facilities (5% of Earthwork Cost)	km	\$101,733	0.000	\$0 \$0	0.000	\$0 \$0	
Struct	ures, Tunnels, Walls							
	Standard Structure	km	\$13,733,933	0.000	\$0	0.000	\$0	
	High Structure Long Span Structure	km km	\$16,480,720 \$37,577,568	0.000	\$0 \$0	0.000	\$0 \$0	
4	Waterway Crossing - Primary	km	\$28,876,734	0.000	\$0	0.000	\$0	
	Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.000	\$0	0.000	\$0	
	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
	Double Track Mined (Soft Soil) Seismic Chamber (Drill & Blast/Mined)	km ea	\$96,247,282 \$94,803,899	0.000	\$0 \$0	0.000	\$0 \$0	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
	Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.000	\$0 \$0	0.000	\$0 \$0	
	Retaining Walls	km	\$4,399,945	0.000	\$0	0.000	\$0	
	Containment Walls	km	\$1,500,559	0.000	\$0	0.000	\$0	
	Single Track Cut and Cover Subway Crossings	km	\$30,077,276	0.000	\$0	0.000	\$0	
	Allawance for Grade Crosing Improvements	LS	\$650,000	1.000	\$650,000	1.000	\$650,000	
	ns, Including Parking			0.000	*****		*****	
	Station Site Development/Parking (Rural Station)	LS LS	\$13,293,361 \$2,658,672	8.000 8.000	\$106,346,890 \$21,269,378	8.000 8.000	\$106,346,890 \$21,269,378	
	and Shops		\$2,000,072		\$2.1/207/070		Ψ21/207/070	
2		km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
3		km km	\$0	0.000	\$0 \$0	0.000	\$0 \$0	
4		km	\$0	0.000	\$0	0.000	\$0	
	nd Utility Relocation	line	61 271 //1	0.000	0.9	0.000	\$0	
	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661	0.000	\$0 \$0	0.000	\$0 \$0	
3	Single Track Removal	km	\$63,372	56.327	\$3,569,583	56.327	\$3,569,583	
	Major Utility Relocations - Dense Urban Major Utility Relocations - Urban	km km	\$890,162 \$680,338	0.000	\$0 \$0	0.000	\$0 \$0	
	Major Utility Relocations - Orban Major Utility Relocations - Dense Suburban	km	\$476,873	0.000	\$0	0.000	\$0	
7	Major Utility Relocations - Suburban	km	\$273,407	56.327	\$15,400,197	56.327	\$15,400,197	
	Major Utility Relocations - Undeveloped of Way Items	km	\$13,988	56.327	\$787,917	56.327	\$787,917	
	Right-of-Way Required for Each Segment				\$120,680,511		\$120,680,511	
	Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804	0.000 88.165	\$0 \$120,680,511	0.000 88.165	\$0 \$120,680,511	
	Suburban	Hectares	\$479,081	0.000	\$0	0.000	\$0	
	Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
2	Right-of-Way Required for Passenger Station & Parking Facilities				\$13,293,826		\$13,293,826	
	Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
<u> </u>	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804	0.000 9.712	\$0 \$13,293,826	0.000 9.712	\$0 \$13,203,826	Assumed 3 acres (1.214 hect.) per Station
	Suburban Suburban	Hectares	\$1,368,804	0.000	\$13,293,826	0.000	\$13,293,826	
	Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
3	Right-of-Way Required for Maintenance and Storage Facility				\$0		\$0	
	nmental Mitigation							
	rironmental Mitigation (3% of Line Cost) m Elements				\$9,321,784		\$9,321,784	
	II EIGINGIII3	km	\$93,750	57.851	\$5,423,531	57.851	\$5,423,531	
	Signaling (CTC) single track			0.000	\$0	0.000	\$0	_
1 2	Signaling (CTC with cab signals)(per track km)	km	\$115,625					
1 2 3	Signaling (CTC with cab signals) (per track km) Signaling (CTC) double track		\$115,625 \$178,125	0.000	\$0	0.000	\$0	
1 2 3 Electri	Signaling (CTC with cab signals)(per track km)	km			\$0 \$0		\$0 \$0	
1 2 3 Electri 1 2	Signaling (CTC with cab signals)(per track km) Signaling (CTC) double track fication Items Traction Power Supply Traction Power Distribution	km km km	\$178,125	0.000		0.000		
1 2 3 Electri 1 2 Progra	Signaling (CTC with cab signals)(per track km) Signaling (CTC) double track fication Items Traction Power Supply Traction Power Distribution am Implementation Costs (Design, CM & Agen	km km km cy Cost)	\$178,125 \$432,365	0.000	\$0 \$0	0.000	\$0 \$0	
1 2 3 Electri 1 2 Progra	Signaling (CTC with cab signals)(per track km) Signaling (CTC) double track ification Items Traction Power Supply Traction Power Distribution am Implementation Costs (Design, CM & Agen gram Implementation Costs (25.5% Total Constr. & Procurement Co	km km km cy Cost)	\$178,125 \$432,365	0.000	\$0	0.000	\$0	
1 2 3 Electri 1 2 Progra Pro Contin	Signaling (CTC with cab signals)(per track km) Signaling (CTC) double track ification I tems Traction Power Supply Traction Power Distribution Traction Power Supply Tracti	km km km cy Cost)	\$178,125 \$432,365	0.000	\$0 \$0 \$46,454,712 \$45,543,836	0.000	\$0 \$0 \$46,454,712 \$45,543,836	
1 2 3 Electri 1 2 Progra Progra Progra Contin	Signaling (CTC with cab signals)(per track km) Signaling (CTC) double track ification Items Traction Power Supply Traction Power Distribution am Implementation Costs (Design, CM & Agen gram Implementation Costs (25.5% Total Constr. & Procurement Co	km km km km cy Cost)	\$178,125 \$432,365	0.000	\$0 \$0 \$0 \$46,454,712	0.000	\$0 \$0 \$0 \$46,454,712	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		AUBURN TO	SACRAMENTO)	NOTES
	OOST ELEMENTS	ONT	2006)	Altern	ative 1	Alteri	native 2	NOTES
Alignm	nent Cost			Quantities	Item Cost	Quantities	Item Cost	
Track		Long	±000 1/7	0.000	40	FO 241	¢50.025.514	
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	0.000	\$0 \$0	59.341 0.180	\$58,935,514 \$338,084	
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	1.634	\$3,069,048	
	Double Track Section - In Trench Single Track Section - At Grade	km km	\$1,878,243 \$496,583	0.000 59.341	\$0 \$29,467,757	0.000	\$0 \$0	
	Single Track Section - On Structure	km	\$939,121	0.180	\$169,042	0.000	\$0	
	Single Track Sections - In Tunnel or Subway Single Track Section - In Trench	km	\$939,121 \$939,121	1.634 0.000	\$1,534,524 \$0	0.000	\$0 \$0	
	Freight Double Track - At-Grade	km km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Single Track - At-Grade	km	\$496,583	0.000	\$0	0.000	\$0	
	Four-track construction or reconstruction Crossovers	km ea	\$1,887,657 \$1,000,000	0.000 2.000	\$0 \$2,000,000	0.000 2.000	\$0 \$2,000,000	
Earthw	vork Items							
	Site Preparation - Undeveloped Total Cut	Hectares m3	\$12,081 \$9	149.991 0.000	\$1,812,010 \$0	299.982 0.000	\$3,624,020 \$0	
	Total Fill	m3	\$9	0.000	\$0	0.000	\$0	
	Borrow	m3	\$13	0.000	\$0	0.000	\$0	
	Spoil Landscape/Erosion Control	m3 Hectares	\$0 \$8,075	0.000	\$0 \$0	0.000	\$0 \$0	
5	Security Fencing (Both Sides of R/W)	km	\$101,733	61.155	\$6,221,472	61.155	\$6,221,472	
	Special Drain. Facilities (5% of Earthwork Cost) ures, Tunnels, Walls		ļ.		\$401,674		\$492,275	
1	Standard Structure	km	\$13,733,933	0.000	\$0	0.000	\$0	
	High Structure	km	\$16,480,720	0.000	\$0 \$0	0.000	\$0 \$0	
	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.000	\$0 \$5,197,812	0.000	\$5,197,812	
5	Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.000	\$0	0.000	\$0	
	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast Double Track Mined (Soft Soil)	km	\$83,740,573	0.000	\$0 \$0	0.000	\$0 \$0	
	Seismic Chamber (Drill & Blast/Mined)	km ea	\$96,247,282 \$94,803,899	0.000	\$0	0.000	\$0 \$0	
12	Double Track Cut & Cover Tunnel	km	\$48,123,641	0.000	\$0	1.634	\$78,634,029	
	Trench Short Trench Long	km km	\$49,668,587 \$39,272,836	0.000	\$0 \$0	0.000	\$0 \$0	
15	Mechanical & Electrical for Tunnels	km	\$1,931,362	1.634	\$3,155,846	1.634	\$3,155,846	
	Retaining Walls	km	\$4,399,945 \$1,500,559	0.000	\$0 \$0	0.000 59.521	\$0 \$89,314,796	
	Containment Walls Single Track Cut and Cover Subway	km km	\$30,077,276	1.634	\$49,146,268	0.000	\$69,314,796	
Grade	Separations							
	Street Overcrossing RR - (Urban) Street Overcrossing RR - (Suburban)	ea ea	\$17,167,417 \$6,485,469	0.000	\$0 \$0	0.000	\$0 \$0	
3	Street Overcrossing RR - (Undeveloped)	ea	\$1,093,628	0.000	\$0	0.000	\$0	
	Street Undercrossing RR - (Urban) Street Undercrossing RR - (Suburban)	ea ea	\$17,930,413 \$6,866,967	0.000	\$0 \$34,334,834	0.000	\$0 \$34,334,834	
	Street Undercrossing RR - (Suburban) Street Undercrossing RR - (Undeveloped)	ea	\$1,157,211	5 4	\$4,628,844	5 4	\$34,334,834 \$4,628,844	
3	Minor street closures	ea	\$178,032	4	\$712,130	4	\$712,130	
	ns, Including Parking Sacramento Station New Platform and Grade Separated	l	I					
	Access	LS	\$33,400,000	1.000	\$33,400,000	1.000	\$33,400,000	Per CCJPA Business Plan FY 2007-08 - FY 2008-09
2	New Swanston Sacramento Station	LS	\$6,646,681	1.000	\$20,000,000	1.000	\$6,646,681	Per CCJPA Business Plan FY 2007-08 - FY 2008-09
	and Shops		\$0,040,001	1.000	\$20,000,000	1.000	\$0,040,001	
1 2	Sacramento Maintenance Facility	LS	\$50,000,000 \$0	1.000	\$50,000,000 \$0	1.000	\$50,000,000	Per CCJPA
3		km km	\$0	0.000	\$0 \$0	0.000	\$0 \$0	
4		km	\$0	0.000	\$0	0.000	\$0	
	d Utility Relocation Single Track Relocation (Temporary)	km	\$1,271,661	0.000	\$0	0.000	\$0	
2	Single Track Relocation (Permanent)	km	\$1,271,661	0.000	\$0	0.000	\$0	
	Single Track Removal Major Utility Relocations - Dense Urban	km km	\$63,372 \$890,162	0.000	\$0 \$0	0.000	\$0 \$0	
	Major Utility Relocations - Dense Urban Major Utility Relocations - Urban	km km	\$680,338	0.000	\$0 \$0	0.000	\$0 \$0	
1	Major Utility Relocations - Dense Suburban	km	\$476,873	61.155	\$29,163,149	61.155	\$29,163,149	Pipe & Fiberoptic lines
	Major Utility Relocations - Suburban Major Utility Relocations - Undeveloped	km km	\$273,407 \$13,988	0.000	\$0 \$0	0.000	\$0 \$0	
Right o	of Way Items	1311	\$10,700	5.555	, ,	0.000		
	Right-of-Way Required for Each Segment Dense Urban	Hectares	¢4.107.412	0.000	\$0 \$0	0.000	\$127,572,845	
	Urban	Hectares	\$4,106,412 \$2,737,608	0.000	\$0	0.000	\$0 \$0	
	Dense Suburban	Hectares	\$1,368,804	0.000	\$0	93.200	\$127,572,845	Assumed 50' wide strip of ROW for Alt 2 only
	Suburban Undeveloped	Hectares Hectares	\$479,081 \$342,201	0.000	\$0 \$0	0.000	\$0 \$0	
2	Right-of-Way Required for Passenger Station & Parking		\$572,201	3.000		3.000		
	Facilities Dense Urban	Hectares	\$4,106,412	0.000	\$1,661,808 \$0	0.000	\$1,661,808 \$0	
	Urban	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
	Dense Suburban	Hectares	\$1,368,804 \$479,081	1.214 0.000	\$1,661,808 \$0	1.214 0.000	\$1,661,808 \$0	Assumed 3 acres (1.214 hect) per station
	Suburban Undeveloped	Hectares Hectares	\$479,081	0.000	\$0 \$0	0.000	\$0	
	Right-of-Way Required for Maintenance and Storage Facility	Hectares	\$1,368,804	0.809	\$1,107,872	0.809	\$1,107,872	Assumed 2 acres (0.809 hect) per yard
Enviro	nmental Mitigation	·						
	ronmental Mitigation (3% of Line Cost) n Elements				\$8,163,451		\$16,146,332	
	Signaling (ATC)	km	\$845,654	0.000	\$0	0.000	\$0	
2	Signaling (CTC with cab signals)(per track km)	km	\$115,625	0.000	\$0	61.155	\$7,071,047	
	Signaling (CTC) single track Signaling (CTC) double track	km km	\$93,750 \$178,125	61.155 0.000	\$5,733,281 \$0	0.000	\$0 \$0	
5	Communications (w/Fiber Optic Backbone)	km	\$699,413	0.000	\$0	0.000	\$0	
	Wayside Protection System	km	\$67,144	0.000	\$0	61.155	\$4,106,171	
Liectri	fication Items			Dogo				

COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		AUBURN TO	NOTES		
		2006)	Alternative 1		Alternative 2		
Alignment Cost	Quantities	Item Cost	Quantities	Item Cost			
1 Traction Power Supply	0.000	\$0	61.155	\$26,441,255			
2 Traction Power Distribution	km	\$806,233	0.000	\$0	61.155	\$49,305,164	
Program Implementation Costs (Design, CM & A	gency Co	st)					
Program Implementation Costs (25.5% Total Constr. & Procureme	ent Cost)			\$70,655,054		\$126,682,004	
Contingencies (PER SCREENING)							
Contingencies (25% of Total Construction Cost)				\$69,269,661		\$124,198,043	
Total Construction	Total Construction						
Total Construction and ROW (Incl. Envir. Mitgtn)				\$288,011,774		\$643,281,028	
Grand Total				\$427,936,489		\$894,161,074	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		NOTES			
	COST ELEMENTS	UNIT	2006)	Alter	native 1	Alte	rnative 2	NOTES
Alignn	nent Cost			Quantities	Item Cost	Quantities	Item Cost	
	Items	Luc	#000 1/7	0.000	40	04.070	\$00.40F.000	
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	0.000 21.600	\$0 \$40,570,039	94.270 31.600	\$93,625,839 \$59,352,465	Incl. Segment along I-80
	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0	
5 6	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	94.270 0.000	\$46,812,920 \$0	0.000	\$0 \$0	
7	Single Track Section - On Structure Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	0.000	\$0	
8	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade Freight Single Track - At-Grade	km	\$993,167 \$496,583	0.000	\$0 \$0	42.000 0.000	\$41,713,008 \$0	
	Four-track construction or reconstruction	km km	\$1,887,657	0.000	\$0	0.000	\$0	
12	Crossovers	ea	\$1,000,000	4.000	\$4,000,000	6.000	\$6,000,000	
	vork Items		440.004	0.000	40	0.000	***	
2	Site Preparation - Undeveloped Total Cut	Hectares m3	\$12,081 \$9	0.000	\$0 \$0	0.000	\$0 \$0	
3	Total Fill	m3	\$9	0.000	\$0	0.000	\$0	
4	Borrow	m3	\$13	0.000	\$0	0.000	\$0	
5	Spoil	m3	\$0	0.000	\$0	0.000	\$0	
2	Landscape/Erosion Control Security Fencing (Both Sides of R/W)	Hectares km	\$8,075 \$101,733	0.000 115.870	\$0 \$11,787,784	0.000 115.870	\$0 \$11,787,784	
3	Special Drain. Facilities (5% of Earthwork Cost)	MII	\$101,133	113.070	\$589,389	113.070	\$589,389	
	ures, Tunnels, Walls							
	Standard Structure	km	\$13,733,933	20.000	\$274,678,669	30.000	\$412,018,004	
	High Structure Long Span Structure	km km	\$16,480,720 \$37,577,568	0.000	\$0 \$0	0.000	\$0 \$0	
2	Waterway Crossing - Carquinez (incl. approaches)	km	\$139,375,000	0.000	\$0 \$0	1.600	\$223,000,000	Per independent estimate
3	Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.000	\$0	0.000	\$0	
4	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.000	\$0	0.000	\$0	
5 6	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535 \$78,846,643	0.000	\$0 \$0	0.000	\$0 \$0	
7	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
8		km	\$96,247,282	0.000	\$0	0.000	\$0	
9	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
11	Trench Short Trench Long	km km	\$49,668,587 \$39,272,836	0.000	\$0 \$0	0.000	\$0 \$0	
13	9	km	\$1,931,362	0.000	\$0 \$0	0.000	\$0	
	Retaining Walls	km	\$4,399,945	0.000	\$0	0.000	\$0	
	Containment Walls	km	\$1,500,559	0.000	\$0	115.870	\$173,869,817	
	Single Track Cut and Cover Subway Separations	km	\$30,077,276	0.000	\$0	0.000	\$0	
	Street Overcrossing RR - (Urban)	ea	\$17,167,417	0.000	\$0	0.000	\$0	
2		ea	\$6,485,469	0.000	\$0	0.000	\$0	
	Street Overcrossing RR - (Undeveloped)	ea	\$1,093,628	0.000	\$0	0.000	\$0	
4		ea	\$17,930,413	0.000	\$0	0.000	\$0	
5	Street Undercrossing RR - (Suburban) Street Undercrossing RR - (Undeveloped)	ea ea	\$6,866,967 \$1,157,211	12.000 0.000	\$82,403,601 \$0	3.000 0.000	\$20,600,900 \$0	
	Minor crossing closures	ea	\$178,032	2.000	\$356,065	2.000	\$356,065	
	ns, Including Parking							
	Fairfield/Vacaville Station	LS	\$45,000,000	1.000	\$45,000,000	1.000	\$45,000,000	D 00/D4
2	Fairfield/Suisun Platform Rebuild Davis Station	LS LS	\$16,000,000 \$20,000,000	1.000 1.000	\$16,000,000 \$20,000,000	1.000 1.000	\$16,000,000 \$20,000,000	
	New Stations (Cordelia, Redwood St, Carquinez & Herc.)	LS	\$13,293,361	4.000	\$53,173,445	4.000	\$53,173,445	
	Site Development/Parking (Rural Station)	LS	\$2,658,672	2.000	\$5,317,344	2.000	\$5,317,344	
<u>ards</u>	and Shops		**	0.000	40	0.000	**	
2		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
3		km	\$0	0.000	\$0	0.000	\$0	
4		km	\$0	0.000	\$0	0.000	\$0	
	nd Utility Relocation							
2	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661	0.000	\$0 \$0	0.000	\$0 \$0	
	Single Track Renoval	km	\$63,372	0.000	\$0 \$0	115.870	\$0 \$7,342,971	
1	Major Utility Relocations - Dense Urban	km	\$890,162	11.587	\$10,314,311	11.587	\$10,314,311	
	Major Utility Relocations - Urban	km	\$680,338	34.761	\$23,649,242	34.761	\$23,649,242	
	Major Utility Relocations - Dense Suburban	km	\$476,873	0.000	\$0 \$10,007,803	0.000	\$0 \$19.007.802	
	Major Utility Relocations - Suburban Major Utility Relocations - Undeveloped	km km	\$273,407 \$13,988	69.522 0.000	\$19,007,802 \$0	69.522 0.000	\$19,007,802 \$0	
ight	of Way Items		+101700		4 5			
	Right-of-Way Required for Each Segment				\$0		\$262,572,055	
	Dense Urban	Hectares	\$4,106,412	0.000	\$0 \$0	0.000	\$0	
	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804	0.000	\$0 \$0	0.000 191.826	\$0 \$262,572,055	50' wide Strip
	Suburban	Hectares	\$479,081	0.000	\$0	0.000	\$202,572,055	ои р
	Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
2	Right-of-Way Required for Passenger Station & Parking Facilities				\$0		\$0	
	Facilities Dense Urban	Hectares	\$4,106,412	0.000	\$0 \$0	0.000	\$0 \$0	
	Urban	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
	Dense Suburban	Hectares	\$1,368,804	0.000	\$0	0.000	\$0	
	Suburban	Hectares	\$479,081	0.000	\$0	0.000	\$0	
	Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
	Right-of-Way Required for Maintenance and Storage Facility				\$0		\$0	
	nmental Mitigation						***	
	rironmental Mitigation (3% of Line Cost) m Elements				\$19,489,818		\$44,978,713	
	Signaling (ATC)	km	\$845,654	0.000	\$0	0.000	\$0	
			+= 10,004		40	0.000		
1	Signaling (CTC with cab signals) (per track km)	km	\$115,625	0.000	\$0	231.740	\$26,794,938	

COST ELEMENTS UNI		UNIT PRICE (YR NOV-		D	NOTES		
		2006)	Alte	rnative 1	Alte	rnative 2	
Alignment Cost	Quantities	Item Cost	Quantities	Item Cost			
5 Communications (w/Fiber Optic Backbone)	km	\$699,413	0.000	\$0	0.000	\$0	
6 Wayside Protection System	km	\$67,144	0.000	\$0	0.000	\$0	
Electrification Items							
1 Traction Power Supply	km	\$432,365		\$0	115.870	\$50,098,083	
2 Traction Power Distribution	km	\$806,233		\$0	115.870	\$93,418,190	
Program Implementation Costs (Design, CM & Ag	ency Cost	t)					
Program Implementation Costs (25.5% Total Constr. & Procurement	t Cost)			\$169,453,473		\$353,489,838	
Contingencies							
Contingencies (25% of Total Construction Cost)				\$166,130,856		\$345,058,665	
Total Construction				\$664,523,424		\$1,386,234,660	
Total Construction and ROW (Incl. Envir. Mitgtn)				\$684,013,243		\$1,687,785,428	
Grand Total				\$1,019,597,572		\$2,386,333,931	

COST ELEMENTS		UNIT	UNIT PRICE (YR NOV-		NOTES			
			2006)	Altern	ative 1	Alternative 2		NOTES
Alignment Cost				Quantities	Item Cost	Quantities	Item Cost	
	Items	1	4000.477	22.524	*****	00.504	# 00 077 040	
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	22.531 0.000	\$22,377,042 \$0	22.531 0.000	\$22,377,042 \$0	
	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0 \$0	0.000	\$0	
	Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Single Track Section - At Grade	km	\$496,583	0.000	\$0	0.000	\$0	
	Single Track Section - On Structure	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade	km	\$993,167	0.000	\$0	0.000	\$0	
	Freight Single Track - At-Grade	km	\$496,583	0.000	\$0	0.000	\$0	
	Four-track construction or reconstruction Crossovers	km	\$1,887,657	0.000 4.000	\$0 \$4,000,000	0.000 4.000	\$0 \$4,000,000	
	work Items	ea	\$1,000,000	4.000	\$4,000,000	4.000	\$4,000,000	
	Site Preparation - Undeveloped	Hectares	\$12,081	55.260	\$667,587	55.260	\$667,587	
	Total Cut	m3	\$9	0.000	\$0	0.000	\$0	
	Total Fill	m3	\$9	0.000	\$0	0.000	\$0	
4	Borrow	m3	\$13	0.000	\$0	0.000	\$0	
5	Spoil	m3	\$0	0.000	\$0	0.000	\$0	
4	Landscape/Erosion Control	Hectares	\$8,075	0.000	\$0	0.000	\$0	
	Security Fencing (Both Sides of R/W)	km	\$101,733	22.531	\$2,292,143	22.531	\$2,292,143	
	Special Drain. Facilities (5% of Earthwork Cost)				\$147,986		\$147,986	
	tures, Tunnels, Walls	1 .	4					
	Standard Structure	km	\$13,733,933	0.000	\$0	0.000	\$0	
	High Structure	km km	\$16,480,720 \$37,577,568	0.000	\$0 \$0	0.000	\$0 \$0	
	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568	0.000	\$0 \$0	0.000	\$0	
	Waterway Crossing - Frinary Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.000	\$0 \$0	0.000	\$0	
	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.000	\$0 \$0	0.000	\$0	
7		km	\$55,464,535	0.000	\$0	0.000	\$0	
	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.000	\$0	0.000	\$0	
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
	Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
	Trench Long	km	\$39,272,836	0.000	\$0	0.000	\$0	
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.000	\$0	0.000	\$0	
	Retaining Walls	km	\$4,399,945	0.000	\$0	0.000	\$0	
	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.000	\$0 \$0	22.531 0.000	\$33,809,104 \$0	
	e Separations	KIII	\$30,077,276	0.000	\$0	0.000	\$0	
	Street Overcrossing RR - (Urban)	ea	\$17,167,417	4.000	\$68,669,667	4.000	\$68,669,667	,
	Street Overcrossing RR - (Suburban)	ea	\$6,485,469	0.000	\$0	0.000	\$0	
	Street Overcrossing RR - (Undeveloped)	ea	\$1,093,628	0.000	\$0	0.000	\$0	
4	Street Undercrossing RR - (Urban)	ea	\$17,930,413	8.000	\$143,443,305	8.000	\$143,443,305	
5		ea	\$6,866,967	0.000	\$0	0.000	\$0	
	Street Undercrossing RR - (Undeveloped)	ea	\$1,157,211	0.000	\$0	0.000	\$0	
	Minor crossing closures	ea	\$178,032	6.000	\$1,068,195	6.000	\$1,068,195	
	ons, Including Parking	1		0.000	4.0	2 222	40	
	Terminal	LS	\$106,346,890	0.000	\$0	0.000	\$0	
	Site Development/Parking (Terminal Station) Urban	LS LS	\$26,586,722 \$53,173,445	0.000 2.000	\$0 \$106,346,890	0.000 2.000	\$0 \$106 346 890	Richmond, Oakland
4		LS	\$53,173,445 \$13,293,361	2.000	\$106,346,890	2.000	\$26,586,722	Michillonu, Oakiaila
	Suburban	LS	\$13,293,361	2.000	\$53,173,445	2.000		Emeryville, Berkeley
	Site Development/Parking (Suburban Station)	LS	\$6,646,681	2.000	\$13,293,361	2.000	\$13,293,361	o.j.ilio, Derkeley
	Rural	LS	\$13,293,361	0.000	\$0	0.000	\$0	
8	Site Development/Parking (Rural Station)	LS	\$2,658,672	0.000	\$0	0.000	\$0	
	Parking - Structure	space	\$15,886	0.000	\$0	0.000	\$0	
	Parking - At Grade	space	\$2,277	0.000	\$0	0.000	\$0	
	and Shops							
1		km	\$0	0.000	\$0	0.000	\$0	
2		km	\$0	0.000	0\$	0.000	\$0 \$0	
3		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
	nd Utility Relocation	KIII		0.000	\$ 0	0.000	Φ0	
	Single Track Relocation (Temporary)	km	\$1,271,661	0.000	\$0	0.000	\$0	
	Single Track Relocation (Permanent)	km	\$1,271,661	0.000	\$0	0.000	\$0	
	Single Track Removal	km	\$63,372	0.000	\$0	0.000	\$0	
4	Major Utility Relocations - Dense Urban	km	\$890,162	22.531	\$20,056,248	22.531	\$20,056,248	
	Major Utility Relocations - Urban	km	\$680,338	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Dense Suburban	km	\$476,873	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Suburban	km	\$273,407	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Undeveloped	km	\$13,988	0.000	\$0	0.000	\$0	
	of Way Items	ı			4-		¢ 47 000 0	
1	Right-of-Way Required for Each Segment	Dis str	64.467.41	0.000	\$0	0.000	\$47,000,961	ļ
	Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0 \$0	
	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804	0.000	\$0 \$0	0.000 34.337	\$0 \$47,000,961	50" wide strip
_	Suburban Suburban	Hectares	\$1,368,804	0.000	\$0 \$0	0.000	\$47,000,961	50" wide strip
_	Undeveloped	Hectares	\$342,201	0.000	\$0 \$0	0.000	\$0	
	Right-of-Way Required for Passenger Station & Parking	i iccidi 63	ψJ+Z,ZU I	0.000	υU	0.000	\$0	
2	IRIGHT-OI-Way Required for Passender Station & Parking							

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COST ELEMENTS		UNIT PRICE (YR NOV- 2006)		NOTES			
			Altern	native 1 Alternative 2			
Alignment Cost	Quantities	Item Cost	Quantities	Item Cost			
Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
Urban	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
Dense Suburban	Hectares	\$1,368,804	0.000	\$0	4.856	\$6,646,913	
Suburban	Hectares	\$479,081	0.000	\$0	0.000	\$0	
Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
Right-of-Way Required for Maintenance and Storage Facility				\$0		\$0	
Environmental Mitigation	Ť						
Environmental Mitigation (3% of Line Cost)				\$13,863,678		\$16,487,387	
System Elements							
1 Signaling (ATC)	km	\$845,654	0.000	\$0	0.000	\$0	
2 Signaling (CTC with cab signals) (per track km)	km	\$115,625	0.000	\$0	45.062	\$5,210,294	
3 Signaling (CTC) single track	km	\$93,750	0.000	\$0	0.000	\$0	
4 Signaling (CTC) double track	km	\$178,125	22.531	\$4,013,334	0.000	\$0	
5 Communications (w/Fiber Optic Backbone)	km	\$699,413	0.000	\$0	0.000	\$0	
6 Wayside Protection System	km	\$67,144	0.000	\$0	0.000	\$0	
Electrification Items	1						
1 Traction Power Supply	km	\$432,365	0.000	\$0	22.531	\$9,741,606	
2 Traction Power Distribution	km	\$806,233	0.000	\$0	22.531	\$18,165,230	
Program Implementation Costs (Design, CM &		st)		****		*101.007.150	
Program Implementation Costs (25.5% Total Constr. & Procurement Cost)				\$118,864,661		\$134,907,450	
Contingencies (250) of Table Control (200)				£11/ F22 001		#122 2/2 22/	
Contingencies (25% of Total Construction Cost)				\$116,533,981		\$132,262,206	
Total Construction		\$466,135,926		\$529,048,825			
Total Construction and ROW (Incl. Envir. Mitgt Grand Total		\$479,999,603 \$715,398,246		\$599,184,086 \$866,353,743			
Granu Tulai				\$110,390,240		φ000,303,743	

COST ELEMENTS		UNIT	UNIT PRICE (YR NOV- 2006)			NOTES		
				Alt. 1 - Stock. to Martinez			Alt. 2 - Stock. to Richmd	
Alignment Cost				Quantities	Item Cost	Quantities	Item Cost	
	Items				4==			
	Single Track Section - At Grade cures, Tunnels, Walls	km	\$496,583	119.090	\$59,138,120	119.090	\$59,138,120	
	Standard Structure	km	\$13,733,933	0.000	\$0	0.000	\$0	
	High Structure	km	\$16,480,720	0.000	\$0 \$0	0.000	\$0	
	Long Span Structure	km	\$37,577,568	0.000	\$0	0.000	\$0	
	Waterway Crossing - Primary	km	\$28,876,734	0.000	\$0	0.000	\$0	
	Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.000	\$0	0.000	\$0	
	Twin Single Track Drill & Blast (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0 \$0	0.000	\$0 \$0	
	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
	Double Track Mined (Soft Soil)	km	\$96,247,282	0.000	\$0	0.000	\$0	
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Crossovers	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
	Trench Long	km	\$49,668,587	0.000	\$0 \$0	0.000	\$0 \$0	
	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.000	\$0 \$0	0.000	\$0 \$0	
	Retaining Walls	km	\$4,399,945	0.000	\$0 \$0	0.000	\$0 \$0	
	Containment Walls	km	\$1,500,559	0.000	\$0	0.000	\$0	
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$0	0.000	\$0	
	Separations							
	Street Overcrossing RR - (Urban)	ea	\$17,167,417	0.000	\$0	0.000	\$0	
	Street Overcrossing RR - (Suburban)	ea	\$6,485,469	0.000	\$0	0.000	\$0 \$0	
	Street Overcrossing RR - (Undeveloped) Street Undercrossing RR - (Urban)	ea ea	\$1,093,628 \$17,930,413	0.000 6.000	\$0 \$107,582,479	0.000 6.000	\$0 \$107,582,479	
	Street Undercrossing RR - (Urban) Street Undercrossing RR - (Suburban)	ea	\$17,930,413	0.000	\$107,582,479 \$0	0.000	\$107,582,479	
	Street Undercrossing RR - (Undeveloped)	ea	\$1,157,211	0.000	\$0	0.000	\$0	
	Minor crossing closures	ea	\$178,032	0.000	\$0	0.000	\$0	
	ns, Including Parking							
	Terminal	LS	\$106,346,890	0.000	\$0	0.000	\$0	
2		LS	\$26,586,722	0.000	\$0	0.000	\$0	
	Urban	LS	\$53,173,445	0.000	\$0 \$0	0.000	\$0 \$0	
5	Site Development/Parking (Urban Station) Suburban	LS LS	\$13,293,361 \$26,586,722	1.000	\$26,586,722	1.000	\$26,586,722	
	Site Development/Parking (Suburban Station)	LS	\$6,646,681	1.000	\$6,646,681	1.000	\$6,646,681	
	Rural	LS	\$13,293,361	0.000	\$0	0.000	\$0	
	Site Development/Parking (Rural Station)	LS	\$2,658,672	0.000	\$0	0.000	\$0	
9	Parking - Structure	space	\$15,886	0.000	\$0	0.000	\$0	
	Parking - At Grade	space	\$2,277	0.000	\$0	0.000	\$0	
	and Shops		**	0.000	* 0	0.000	Φ0	
2		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
3		km	\$0	0.000	\$0 \$0	0.000	\$0 \$0	
4		km	\$0	0.000	\$0	0.000	\$0	
ail a	nd Utility Relocation			3.222	7-	5.555		
1	Single Track Relocation (Temporary)	km	\$1,271,661	0.000	\$0	0.000	\$0	
	Single Track Relocation (Permanent)	km	\$1,271,661	0.000	\$0	0.000	\$0	
	Single Track Removal	km	\$63,372	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Dense Urban	km	\$890,162	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Urban Major Utility Relocations - Dense Suburban	km km	\$680,338 \$476,873	0.000	\$0 \$0	0.000	\$0 \$0	
	Major Utility Relocations - Dense Suburban Major Utility Relocations - Suburban	km km	\$476,873	0.000	\$0 \$0	0.000	\$0 \$0	
	Major Utility Relocations - Subdiban	km	\$13,988	119.090	\$1,665,863	119.090	\$1,665,863	
	of Way Items		ţ.c/,30					
	Right-of-Way Required for Each Segment				\$0		\$0	•
	Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	·
	Urban Cobordon	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
	Dense Suburban	Hectares	\$1,368,804	0.000	\$0	0.000	\$0 \$0	
	Suburban Undeveloped	Hectares Hectares	\$479,081 \$342,201	0.000	\$0 \$0	0.000	\$0 \$0	
	Right-of-Way Required for Passenger Station & Parking	riculates	\$34Z,ZUT	0.000	\$0	0.000	ΦU	
2	Facilities				\$581,629		\$581,629	
	Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	· · · · · · · · · · · · · · · · · · ·
	Urban	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
	Dense Suburban	Hectares	\$1,368,804	0.000	\$0 \$591,630	0.000	\$0 \$591,430	
	Suburban Undeveloped	Hectares Hectares	\$479,081 \$342,201	1.214 0.000	\$581,629 \$0	1.214 0.000	\$581,629 \$0	
	Right-of-Way Required for Maintenance and Storage	riectares	\$34Z,ZUT	0.000	\$0	0.000	ΦU	
3	Facility				\$0		\$0	
	onmental Mitigation							
	vironmental Mitigation (3% of Line Cost)				\$6,066,045		\$6,066,045	
	m Elements	lan-	¢045.454	0.000	40	0.000	40	
	Signaling (ATC) Signaling (CTC with cab signals)(per track km)	km km	\$845,654 \$115,625	0.000	\$0 \$0	0.000	\$0 \$0	
	Signaling (CTC) single track	km km	\$115,625	0.000	\$0 \$0	0.000	\$0 \$0	
	Signaling (CTC) double track	km	\$178,125	119.090	\$21,212,906	119.090	\$21,212,906	
	Communications (w/Fiber Optic Backbone)	km	\$699,413	0.000	\$21,212,400	0.000	\$21,212,400	
6	Wayside Protection System	km	\$67,144	0.000	\$0	0.000	\$0	
ectr	ification Items							
	Traction Power Supply	km	\$432,365	0.000	\$0	0.000	\$0	
2	Traction Power Distribution	km	\$806,233	0.000	\$0	0.000	\$0	

COST ELEMENTS UNIT				NOTES		
		2006)	Alt. 1 - Stock	. to Martinez	Alt. 2 - Stock	
Alignment Cost	Quantities	Item Cost	Quantities	Item Cost		
Program Implementation Costs (Design, CM & Ad						
Program Implementation Costs (25.5% Total Constr. & Procurement		\$56,822,357		\$56,822,357		
Contingencies						
Contingencies (25% of Total Construction Cost)		\$55,708,193		\$55,708,193		
Total Construction		\$222,832,771		\$222,832,771		
Total Construction and ROW (Incl. Envir. Mitgtn)		\$229,480,444		\$229,480,444		
Grand Total		\$342,010,994		\$342,010,994		

COST ELEMENTS UNIT PRICE (YR NOV-				Tracy to	NOTES			
			2006)	Alter	native 1	Alter	native 2	
_	nment Cost		-	Quantities	Item Cost	Quantities	Item Cost	
Trac	Double Track Section - Total	km		0.00		58.95		
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	0.000	\$0 \$0	58.950 0.000	\$58,547,186	
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0 \$0	
4	Double Track Section - In Trench Single Track Section - Total	km km	\$1,878,243	0.000 58.950	\$0	0.000	\$0	
	Single Track Section - At Grade	km	\$496,583	58.950	\$29,273,593	0.000	\$0	
	Single Track Section - On Structure Single Track Sections - In Tunnel or Subway	km km	\$939,121 \$939,121	0.000	\$0 \$0	0.000	\$0 \$0	
8	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade Freight Single Track - At-Grade	km km	\$993,167 \$496,583	0.000	\$0 \$0	0.000	\$0 \$0	
Eart	hwork Items							
	Site Preparation - Undeveloped Total Cut	Hectares m3	\$12,081 \$9	0.000	\$0 \$0	0.000	\$0 \$0	
	Total Fill	m3	\$9	0.000	\$0	0.000	\$0	
	Borrow Spoil	m3 m3	\$13 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
	Landscape/Erosion Control	Hectares	\$8,075	0.000	\$0	0.000	\$0	
8	Security Fencing (Both Sides of R/W) Special Drain. Facilities (5% of Earthwork Cost)	km	\$101,733	56.450	\$5,742,819 \$287,141	56.450	\$5,742,819 \$287,141	
	ctures, Tunnels, Walls Standard Structure	km	\$13,733,933	0.650	\$8,927,057	1.950	\$26,781,170	
2	High Structure	km	\$16,480,720	0.000	\$0	0.000	\$0	
	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.000	\$0 \$0	0.000	\$0 \$0	
5	Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.290	\$6,704,575	0.290	\$6,704,575	
	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast Double Track Mined (Soft Soil)	km km	\$83,740,573 \$96,247,282	0.000	\$0 \$0	0.000	\$0 \$0	
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Crossovers Cut & Cover Double Track Tunnel	ea km	\$94,803,899 \$48,123,641	0.000	\$0 \$0	0.000	\$0 \$0	
14	Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.000	\$0 \$0	0.000	\$0 \$0	
17	Retaining Walls	km	\$4,399,945	0.000	\$0	0.000	\$0	
	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.000	\$0 \$0	0.000	\$0 \$0	
Grac	le Separations							
	Street Overcrossing HSR - (Urban) Street Overcrossing HSR - (Suburban)	ea ea	\$17,167,417 \$6,485,469	0.000	\$0 \$0	0.000	\$0 \$0	
3	Street Overcrossing HSR - (Undeveloped)	ea	\$1,093,628	0.000	\$0	0.000	\$0	
	Street Undercrossing HSR - (Urban) Street Undercrossing HSR - (Suburban)	ea ea	\$17,930,413 \$6,866,967	0.000 1.000	\$0 \$6,866,967	0.000 1.000	\$0 \$6,866,967	
6	Street Undercrossing HSR - (Undeveloped)	ea	\$1,157,211	0.000	\$0	0.000	\$0	
	Street Bridging HSR Trench Minor crossing closures	ea ea	\$178,032	0.000	\$0 \$0	0.000	\$0 \$0	
	Grade crossing	ea	\$250,000	30.000	\$7,500,000	26.000	\$6,500,000	
	ding Items Terminal	LS	\$111,906,124	0.000	\$0	0.000	\$0	
	Site Development/Parking (Terminal Station) Urban	LS LS	\$27,976,531 \$55,953,062	0.000	\$0 \$0	0.000	\$0 \$0	
	Site Development/Parking (Urban Station)	LS	\$13,988,266	0.000	\$0	0.000	\$0	
	Suburban Site Development/Parking (Suburban Station)	LS LS	\$27,976,531 \$6,994,133	0.000	\$0 \$0	0.000	\$0 \$0	
7	Rural	LS	\$13,988,266	0.000	\$0	0.000	\$0	
	Site Development/Parking (Rural Station) Parking - Structure	LS space	\$2,797,653 \$16,716	0.000	\$0 \$0	0.000	\$0 \$0	
10	Parking - At Grade	space	\$2,396	0.000	\$0 \$0	0.000	\$0	
	ions, Including Parking Terminal	LS	\$106,346,890	0.000	\$0	0.000	\$0	
2	Site Development/Parking (Terminal Station)	LS	\$26,586,722	0.000	\$0	0.000	\$0	
	Urban Site Development/Parking (Urban Station)	LS LS	\$53,173,445 \$13,293,361	0.000	\$0 \$0	0.000	\$0 \$0	
5	Suburban	LS	\$26,586,722	8.000	\$212,693,779	8.000	\$212,693,779	
	Site Development/Parking (Suburban Station) Rural	LS LS	\$6,646,681 \$13,293,361	8.000 0.000	\$53,173,445 \$0	8.000 0.000	\$53,173,445 \$0	
8	Site Development/Parking (Rural Station)	LS	\$2,658,672	0.000	\$0	0.000	\$0	
10	Parking - Structure Parking - At Grade	space space	\$15,886 \$2,277	0.000	\$0 \$0	0.000	\$0 \$0	
Yard	ls and Shops				\$0	0.000	\$0	
2		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
3		km	\$0 \$0	0.000	\$0 \$0	0.000	\$0	
Rail	l and Utility Relocation	km		0.000			\$0	
	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661	0.000	\$0 \$0	0.000	\$0 \$0	
3	Single Track Removal	km	\$63,372	55.200	\$3,498,162	55.200	\$3,498,162	
	Major Utility Relocations - Dense Urban Major Utility Relocations - Urban	km km	\$890,162 \$680,338	0.000	\$0 \$0	0.000	\$0 \$0	
6	Major Utility Relocations - Dense Suburban	km	\$476,873	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Suburban Major Utility Relocations - Undeveloped	km km	\$273,407 \$13,988	0.000	\$0 \$0	0.000	\$0 \$0	
Righ	it of Way Items	NIII	\$13,788	0.000	ΦU	0.000	ΦU	
1	Right-of-Way Required for Each Segment Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
	Urban	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
<u> </u>	Dense Suburban Suburban	Hectares Hectares	\$1,368,804 \$479,081	9.000 0.000	\$12,319,237 \$0	89.899 0.000	\$123,053,779 \$0	
	Undeveloped	Hectares	\$342,201	0.000	\$0 \$0	0.000	\$0 \$0	
2	Right-of-Way Required for Passenger Station & Parking Facilities			0.000		0.000		

Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
Urban	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
Dense Suburban	Hectares	\$1,368,804	0.000	\$0	0.000	\$0	
Suburban	Hectares	\$479,081	4.856	\$2,326,530	0.000	\$0	
Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
3 Right-of-Way Required for Maintenance and Storage Facility			0.000		0.000		
Environmental Mitigation							
Environmental Mitigation (3% of Line Cost)				\$10,205,823		\$13,386,884	
System Elements							
1 Signaling (CTC) single track	km	\$93,750	58.950	\$5,526,563	0.000	\$0	
2 Signaling (CTC) double track	km	\$178,125	0.000	\$0	58.950	\$10,500,469	
3 Communications (w/Fiber Optic Backbone)	km		0.000	0.000		1,135,415	
4 Wayside Protection System	km		0.000	0.000	0.000	0	
Electrification Items							
1 Traction Power Supply	km	\$807,783	0.000	0.000	58.950	47,618,808	
2 Traction Power Distribution	LS		0.000	0.000	0.000	16,680,000	
Program Implementation Costs (PER SCREENII	١						
Program Implementation Costs (25.5% Total Constr. & Procurement		\$92,493,386		\$151,258,503			
Contingencies (PER SCREENING)							
Contingencies (25% of Total Construction Cost)		\$90,679,790		\$148,292,650			
Total Construction				\$340,194,100		\$446,229,466	
Total Construction and ROW (Incl. Envir. Mitgti		\$362,719,160		\$593,170,598			
Grand Total		\$545,892,336		\$892,721,751			

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		Sacramento	to Merced		NOTES
			2006)	Alterna	ntive 1	Alterna	ntive 2	
-	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
	k Items Double Track Section - Total	km		182.80		182.80		
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	173.200 9.600	\$172,016,499 \$18.031.129	173.200 9.600	\$172,016,499 \$18.031,129	
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0	
4	Double Track Section - In Trench Single Track Section - Total	km km	\$1,878,243	0.000 0.000	\$0	0.000 182.800	\$0	
	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	0.000 0.000	\$0 \$0	173.200 9.600	\$86,008,250 \$9,015,564	
7	Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Section - In Trench Freight Double Track - At-Grade	km km	\$939,121 \$993,167	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
	Freight Single Track - At-Grade Nwork Items	km	\$496,583	0.000	\$0	0.000	\$0	
1	Site Preparation - Undeveloped	Hectares	\$12,081	0.000	\$0	0.000	\$0	
3	Total Cut Total Fill	m3 m3	\$9 \$9	1,262,396.000 915,859.000	\$11,237,374 \$8,152,632	1,893,594.000 1,373,789.000	\$16,856,061 \$12,228,952	
	Borrow Spoil	m3 m3	\$13 \$0	0.000	\$0 \$0	0.000 0.000	\$0 \$0	
6	Landscape/Erosion Control	Hectares	\$8,075	0.000	\$0	0.000	\$0	
8	Security Fencing (Both Sides of R/W) Special Drain. Facilities (5% of Earthwork Cost)	km	\$101,733	169.850	\$17,279,323 \$1,833,466	169.850	\$17,279,323 \$2,318,217	
Stru	ctures, Tunnels, Walls Standard Structure	km	\$13,733,933	7.800	\$107,124,681	7.800	\$107,124,681	
2	High Structure	km	\$16,480,720	5.100	\$84,051,673	5.100	\$84,051,673	
	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.000 0.350	\$0 \$10,106,857	0.000 0.350	\$0 \$10,106,857	
5	Waterway Crossing - Secondary (Irrig./Canal Crossing) Twin Single Track Drill & Blast (<6 Miles)	km km	\$23,119,226 \$75,040,254	2.220 0.000	\$51,324,681 \$0	2.220	\$51,324,681 \$0	
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.000	\$0	0.000	\$0	
	Twin Single Track TBM w/3rd Tube (>6 Miles) Double Track Drill & Blast	km km	\$78,846,643 \$83,740,573	0.000	\$0 \$0	0.000 0.000	\$0 \$0	
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.000	\$0	0.000	\$0	
11	Seismic Chamber (Drill & Blast/Mined) Crossovers	ea ea	\$94,803,899 \$94,803,899	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
13	Cut & Cover Double Track Tunnel Trench Short	km km	\$48,123,641 \$49,668,587	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
15	Trench Long	km	\$39,272,836	0.000	\$0	0.000	\$0	
16 17	Mechanical & Electrical for Tunnels Retaining Walls	km km	\$1,931,362 \$4,399,945	0.000 6.900	\$0 \$30,359,623	0.000 6.900	\$0 \$30,359,623	
18	Containment Walls	km km	\$1,500,559 \$30,077,276	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
Grac	Single Track Cut and Cover Subway e Separations	KIII						
	Street Overcrossing HSR - (Urban) Street Overcrossing HSR - (Suburban)	ea ea	\$17,167,417 \$6,485,469	38.000 28.000	\$652,361,839 \$181,593,120	38.000 28.000	\$652,361,839 \$181,593,120	
3	Street Overcrossing HSR - (Undeveloped)	ea	\$1,093,628	22.000	\$24,059,817	22.000	\$24,059,817	
5	Street Undercrossing HSR - (Urban) Street Undercrossing HSR - (Suburban)	ea ea	\$17,930,413 \$6,866,967	5.000 2.000	\$89,652,066 \$13,733,933	5.000 2.000	\$89,652,066 \$13,733,933	
6 7	Street Undercrossing HSR - (Undeveloped) Street Bridging HSR Trench	ea ea	\$1,157,211	2.000 0.000	\$2,314,422 \$0	2.000 0.000	\$2,314,422 \$0	
8	Minor crossing closures	ea	\$178,032	8.000	\$1,424,260	8.000	\$1,424,260	
	Grade crossing ons, Including Parking	ea	\$250,000	0.000	\$0	0.000	\$0	
1	Terminal Site Development/Parking (Terminal Station)	LS LS	\$106,346,890 \$26,586,722	0.000	\$0 \$0	0.000 0.000	\$0 \$0	
3	Urban	LS	\$53,173,445	0.000	\$0	0.000	\$0	
	Site Development/Parking (Urban Station) Suburban	LS LS	\$13,293,361 \$26,586,722	0.000 8.000	\$0 \$212,693,779	0.000 8.000	\$0 \$212,693,779	
6	Site Development/Parking (Suburban Station)	LS	\$6,646,681	8.000 0.000	\$53,173,445	8.000 0.000	\$53,173,445	
8	Rural Site Development/Parking (Rural Station)	LS LS	\$13,293,361 \$2,658,672	0.000	\$0 \$0	0.000	\$0 \$0	
9 10	Parking - Structure Parking - At Grade	space space	\$15,886 \$2,277	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
Yard	s and Shops							
2		km km	\$0 \$0	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
3		km km	\$0 \$0	0.000	\$0 \$0	0.000 0.000	\$0 \$0	
	and Utility Relocation							
2	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661	0.000	\$0 \$0	0.000 182.800	\$0 \$232,459,540	
3	Single Track Removal Major Utility Relocations - Dense Urban	km km	\$63,372 \$890,162	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
5	Major Utility Relocations - Urban	km	\$680,338	38.414	\$26,134,518	38.414	\$26,134,518	
	Major Utility Relocations - Dense Suburban Major Utility Relocations - Suburban	km km	\$476,873 \$273,407	0.000 6.059	\$0 \$1,656,573	0.000 6.059	\$0 \$1,656,573	
8	Major Utility Relocations - Undeveloped t of Way Items	km	\$13,988	48.923	\$684,348	48.923	\$684,348	
reign 1	Right-of-Way Required for Each Segment			0.000		0.000		
\vdash	Dense Urban Urban	Hectares Hectares	\$4,106,412 \$2,737,608	0.000 0.000	\$0 \$0	0.000 278.587	\$0 \$762,662,613	Assumed purchasing 50' (0.01524km) wide ROW strip
	Dense Suburban	Hectares	\$1,368,804	0.000	\$0	0.000	\$0	, , , , , , , , , , , , , , , , ,
	Suburban Undeveloped	Hectares Hectares	\$479,081 \$342,201	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
2	Right-of-Way Required for Passenger Station & Parking Facilities			0.000	\$1,478,313,967	0.000	\$1,815,977,079	
H	Dense Urban Urban	Hectares Hectares	\$4,106,412 \$2,737,608	0.000 58.384	\$1,770,315,709 \$1,770,315,709	0.000 58.384	\$2,107,978,821 \$2,107,978,821	
	Dense Suburban	Hectares	\$1,368,804	0.000	,,,,,,,,,,,,	0.000	,, , , , , , , , , , , , , , , , ,	
E	Suburban Undeveloped	Hectares Hectares	\$479,081 \$342,201	9.209 74.273		9.209 74.273		
3	Right-of-Way Required for Maintenance and Storage Facility			0.000		0.000		
Envi	ronmental Mitigation			0.000	¢E4 107 000	0.000	\$70.0F3.373	
Syst	ironmental Mitigation (3% of Line Cost) em Elements				\$54,106,839		\$70,052,363	
	Signaling (ATC) Signaling (CTC with cab signals)(per track km)	km km	\$845,654 \$115,625	0.000 0.000	\$0 \$0	0.000 548.400	\$0 \$63,408,750	
3	Signaling (CTC) single track	km	\$93,750	0.000	\$0	0.000	\$0	
4 5	Signaling (CTC) double track Communications (w/Fiber Optic Backbone)	km km	\$178,125 \$699,413	182.800 0.000	\$32,561,250 \$0	0.000 0.000	\$0 \$0	
6	Wayside Protection System	km	\$67,144	0.000	\$0	0.000	\$0	
1	trification Items Traction Power Supply	km	\$432,365	0.000	0.000	182.800	79,036,244	
	Traction Power Distribution ram Implementation Costs (PER SCREENIN	km	\$806,233	0.000	0.000	182.800	147,379,349	

Program Implementation Costs (25.5% Total Constr. & Procurement Cost)	\$459,908,133	\$823,956,634	
Contingencies (PER SCREENING)			
Contingencies (25% of Total Construction Cost)	\$464,417,037	\$807,800,622	
Total Construction	\$1,803,561,307	\$2,335,078,761	
Total Construction and ROW (Incl. Envir. Mitgtn)	\$1,857,668,147	\$3,231,202,488	
Grand Total	\$2,781,993,317	\$4,862,959,744	

High-Speed Alignment Alternatives Redwood Jct to Newark Segment Breakdown

2		COST ELEMENTS	UNIT	UNIT PRICE	QUANT	TITIES	QUANTITIES		
Double Track Section-Total Double Track S	Alian	nment Cost							
Double Trust Section - Total									
2			km						
3 Double Face Section - In Turnel or Subway En	1	Double Track Section - At Grade	km		0.00		14.80	\$14,698,869	
Double Frack Section - Intenden								\$4,582,912	
Simple Track Section - Include								\$0	
Segret Transis Secretor - A Growder	4			\$1,878,243		\$0		\$0	
Simple Track Section - in Name Imm \$9399 71 2.44 \$2,924,166 0.00 0.00 3 3 3 3 3 3 3 3 3									
1 Single Track Section - in Trunned or Sulvivay									
B		5						\$0	
Part								\$0	
10 Temple Single Trace A. Groube Imm \$449,585 0.00 50 0.00 51								\$0	
Size Preparation - Underwingted									
Sign Programmin - Undervoloped Programs \$17,081 0.00 \$0 0.00 \$3 3.5			KIII	\$490,000	0.00	\$0	0.00	\$0	
2			hoctaro	\$12.081	0.00	\$0	0.00	\$0	
18 18								\$0	
Signature								\$0	
Special Spec								\$0	
Contained Cont								\$0	
Separation Sep		·						\$0	
Second December Walls								\$0	
					0.00		0.00	\$0	
Standard Structure			3700	uork		ΨΟ		1 40	
2 High Structure			km	\$13.733 933	0.00	\$0	0.00	\$0	
1								\$0	
Markeway Crossing - Senonary (Irrigation/Canal Crossing)								\$0	
Section Sect								\$140,918,463	
Twin Single Track Drill & Blast (c6 Miles)								\$0	
7								\$0	
New Single Track FBM w3rd Tube (>6 Miles)								\$0	
Variable Track Drill & Blast	8		km		0.00	\$0	0.00	\$0	
11 Seismic Chamber (Chill & Blist/Affiner)	9		km	\$83,740,573	0.00	\$0	0.00	\$0	
12 Corssivers	10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0	
13 Cut & Cover Double Track Tunnel	11		ea	\$94,803,899	0.00	\$0	0.00	\$0	
14 Trench Short	12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0	
15 Trench Long	13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0	
16 Mechanical & Electrical for Turnels	14		km		0.00	\$0	0.00	\$0	
17 Retaining Walls	15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0	
18 Containment Walls km \$1,500,559 0.00 \$0 0.00 \$5	16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0	
19 Single Track Cut and Cover Subway Same S30,077,276 O.00 \$0 O.00 \$7	17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0	
	18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0	
Street Overcrossing HSR - (Urban, *Linear Fixth Fixth) EA \$17,167,417 0.00 \$0 0.00 \$5	19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0	
Street Overcrossing HSR - (Urban; 4-Track Section)	Grad	le Separations							
Caltrain Segments Only EA \$0 0.00 \$0 0.00 \$0	1		EA	\$17,167,417	0.00	\$0	0.00	\$0	
Street Overcrossing HSR - (Urban: Existing Grade Crossing)									
Cakland-San Jose, San Jose, Cilroy, Alfamont, BNSF N/S, UPRR N/S)			EA	\$0	0.00	\$0	0.00	\$0	
EA \$6,485,469 0.00 \$0 0.00 \$0 0.00 \$0 \$									
Street Undercrossing HSR - Undeveloped				\$0	0.00		0.00	\$0	
Freet Undercrossing HSR - Urban EA \$17,930,413 1.00 \$17,930,413 8.00 \$143,443,30 Street Undercrossing HSR - (Urban; 4-Track Section) (Caltrain Segments Only) EA \$0 0.00 \$0 0.00 \$0 \$0 \$0	2		EA	\$6,485,469	0.00	\$0	0.00	\$0	
Street Undercrossing HSR - (Urban; 4-Track Section)								\$0	
C(altrain Segments Only) EA \$0 0.00 \$0 0.00 \$0 \$0 \$0	4		EA	\$17,930,413	1.00	\$17,930,413	8.00	\$143,443,305	
Street Undercrossing HSR - (Urban: Existing Grade Crossing)									
Coakland-San Jose, San Jose - Gilrroy, Altamont, BNSF N/S, UPRR N/S) EA \$0 0.00 \$0 0.00 \$0 \$0 \$0			EA	\$0	0.00	\$0	0.00	\$0	
Sereet Undercrossing HSR - Suburban		5 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \							
6 Sreet Undercrossing HSR - Undeveloped EA \$1,157,211 0.00 \$0 0.00 \$ 7 Street Bridging HSR Trench EA 0.00 \$0 0.00 \$ 8 Minor crossing closure EA \$178,032 0.00 \$0 0.00 \$ 9 Grade crossing EA \$250,000 9.00 \$2,250,000 0.00 \$ 8tations, Including Parking 0.00 \$ 0.00 \$ 1 Terminal IS \$106,346,890 0.00 \$0 0.00 \$ 2 Site Development/Parking (Terminal Station) IS \$26,586,722 0.00 \$0 0.00 \$ 3 Urban IS \$53,173,445 1.00 \$53,173,445 1.00 \$53,173,445 1.00 \$53,173,445 1.00 \$53,173,445 1.00 \$56,686,722 1.00 \$56,686,722 1.00 \$26,586,722 1.00 \$26,586,722 1.00 \$26,586,722								\$0	
Table Trench Tr									
B				\$1,157,211				\$0	
Facility				#470 000				\$0	
Terminal LS \$106,346,890 0.00 \$0 0.00 \$0 0.00 \$0 \$		9						\$0	
Terminal			LA EA	\$250,000	9.00	\$2,250,000	0.00	\$0	
2 Site Development/Parking (Terminal Station) LS \$26,586,722 0.00 \$0 0.00 \$3 3 Urban LS \$53,173,445 1.00 \$53,173,445 1.00 \$53,173,445 4 Site Development/Parking (Urban Station) LS \$13,293,361 1.00 \$13,293,361 1.00 \$13,293,361 1.00 \$13,293,361 1.00 \$26,586,722 1.00 \$26,586,722 1.00 \$26,586,722 1.00 \$26,586,722 1.00 \$26,686,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 1.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00			10	#10/ 04/ 00°	0.00	40	0.00	00	
3 Urban								\$0 \$0	
4 Site Development/Parking (Urban Station) LS \$13,293,361 1.00 \$13,293,365 5 Suburban LS \$26,586,722 1.00 \$26,586,722 1.00 \$26,586,722 6 Site Development/Parking (Suburban Station) LS \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 7 Rural LS \$13,293,361 0.00 \$0 0.00 \$6,646,681 8 Site Development/Parking (Rural Station) LS \$13,293,361 0.00 \$0 0.00 \$6,646,681 8 Site Development/Parking (Rural Station) LS \$13,293,361 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.									
5 Suburban LS \$20,586,722 1.00 \$26,586,722 1.00 \$26,586,722 6 Site Development/Parking (Suburban Station) LS \$6,646,681 1.00 \$6 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
6 Site Development/Parking (Suburban Station) LS \$6,646,681 1.00 \$6,646,681 1.00 \$6,646,681 7 Rural LS \$13,293,361 0.00 \$0 0.00 \$ 8 Site Development/Parking (Rural Station) LS \$2,658,672 0.00 \$0 0.00 \$ 9 Parking - Structure space \$15,886 0.00 \$0 0.00 \$ 10 Parking - At Grade space \$2,277 0.00 \$0 0.00 \$ 7/ards and Shops **** 1 Mm \$0 0.00 \$0 0.00 \$ 2 Mm \$0 0.00 \$0 0.00 \$ 3 Mm \$0 0.00 \$0 0.00 \$ 4 Mm \$0 0.00 \$0 0.00 \$ 4 Mm \$0 0.00 \$0 0.00 \$ 4 Mm \$0									
7 Rural LS \$13,293,361 0.00 \$0 0.00 \$ 8 Site Development/Parking (Rural Station) LS \$2,658,672 0.00 \$0 0.00 \$ 9 Parking - Structure space \$15,886 0.00 \$0 0.00 \$ 9 Parking - At Grade space \$2,277 0.00 \$0 0.00 \$ 7ards and Shops ***********************************									
8 Site Development/Parking (Rural Station) LS \$2,658,672 0.00 \$0 0.00 \$ 9 Parking - Structure space \$15,886 0.00 \$0 0.00 \$ 10 Parking - At Grade space \$2,277 0.00 \$0 0.00 \$ Yards and Shops								\$0,040,081	
9 Parking - Structure space \$15,886 0.00 \$0 0.00 \$10 Parking - At Grade space \$2,277 0.00 \$0 0.00 \$1 (ards and Shops 2								\$0	
10 Parking - At Grade space \$2,277 0.00 \$0 0.00 \$ /ards and Shops *** 1 Mm \$0 0.00 \$0 0.00 \$ 2 Mm \$0 0.00 \$0 0.00 \$ 3 Mm \$0 0.00 \$0 0.00 \$ 4 Mm \$0 0.00 \$0 0.00 \$ 2ail and Utility Relocation *** \$0 0.00 \$0 0.00 \$ 2 Single Track Relocation (temporary) ** ** \$1,271,661 0.00 \$0 0.00 \$ 2 Single Track Relocation (permanent) ** \$1,271,661 0.00 \$0 0.00 \$ 3 Single Track Removal ** \$63,372 0.00 \$0 0.00 \$								\$0	
Kards and Shops km \$0 0.00 \$0 0.00 \$ 2 km \$0 0.00 \$0 0.00 \$ 3 km \$0 0.00 \$0 0.00 \$ 4 km \$0 0.00 \$0 0.00 \$ 2 Single Track Relocation (temporary) km \$1,271,661 0.00 \$0 0.00 \$ 2 Single Track Relocation (permanent) km \$1,271,661 0.00 \$0 0.00 \$ 3 Single Track Removal km \$63,372 0.00 \$0 0.00 \$			-					\$0	
1 km \$0 0.00 \$0 0.00 \$ 2 km \$0 0.00 \$0 0.00 \$ 3 km \$0 0.00 \$0 0.00 \$ 4 km \$0 0.00 \$0 0.00 \$ 2 Sail and Utility Relocation w \$1,271,661 0.00 \$0 0.00 \$ 1 Single Track Relocation (temporary) km \$1,271,661 0.00 \$0 0.00 \$ 2 Single Track Relocation (permanent) km \$1,271,661 0.00 \$0 0.00 \$ 3 Single Track Removal km \$63,372 0.00 \$0 0.00 \$			эрисе	Ψ ∠ , ∠ 11	0.00	ΨΟ	0.00	1 40	
2 km \$0 0.00 \$0 0.00 \$ 3 km \$0 0.00 \$0 0.00 \$ 4 km \$0 0.00 \$0 0.00 \$ Rail and Utility Relocation *** *** \$0 0.00 \$0 0.00 \$ 1 Single Track Relocation (temporary) km \$1,271,661 0.00 \$0 0.00 \$ 2 Single Track Relocation (permanent) km \$1,271,661 0.00 \$0 0.00 \$ 3 Single Track Removal km \$63,372 0.00 \$0 0.00 \$			km	\$0	0.00	\$0	0.00	\$0	
3 km \$0 0.00 \$0 0.00 \$ 4 km \$0 0.00 \$0 0.00 \$ Rail and Utility Relocation *** <td rowspa<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>\$0</td></td>	<td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>\$0</td>								\$0
Max								\$0	
Rail and Utility Relocation 1 Single Track Relocation (temporary) km \$1,271,661 0.00 \$0 0.00 \$ 2 Single Track Relocation (permanent) km \$1,271,661 0.00 \$0 0.00 \$ 3 Single Track Removal km \$63,372 0.00 \$0 0.00 \$								\$0	
1 Single Track Relocation (temporary) km \$1,271,661 0.00 \$0 0.00 \$ 2 Single Track Relocation (permanent) km \$1,271,661 0.00 \$0 0.00 \$ 3 Single Track Removal km \$63,372 0.00 \$0 0.00 \$		and Utility Relocation		φ0]	0.00	Ψ	0.00	. 30	
2 Single Track Relocation (permanent) km \$1,271,661 0.00 \$0 0.00 \$ 3 Single Track Removal km \$63,372 0.00 \$0 0.00 \$			km	\$1 271 661	0.00	\$0	0.00	\$0	
3 Single Track Removal km \$63,372 0.00 \$0 0.00 \$								\$0	
								\$0	
4 Major Utility Relocation - Dense Urban km \$890,162 0.00 \$0 0.00 \$								\$0	
								\$0	
								\$0	

High-Speed Alignment Alternatives Redwood Jct to Newark Segment Breakdown

	COST ELEMENTS	UNIT	UNIT PRICE	QUANT	TITIES	QUANT	ITIES
				Redwood Jct	to Newark	Redwood Jct.	to Newark
Aliann	nent Cost		-	Alt		Alt	
7	Maior Utility Relocation - Suburban	km	\$273.407	0.00	\$0	0.00	<u> </u>
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.00	\$0	0.00	\$0
	of-Way			<u> </u>			
1	Right-of-Way Required for Each Segment				\$0		\$0
	Dense Urban	hectare	\$4,106,412	0.00	\$0	0.00	\$0
	Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0
	Dense Suburban	hectare	\$1,368,804	0.00	\$0	0.00	\$0
	Suburban	hectare	\$479,081	0.00	\$0	0.00	\$0
	Undeveloped	hectare	\$342,201	0.00	\$0	0.00	\$0
2	Right-of-Way Required for Passenger Station & Parking Facilities				\$3,905,245		\$3,905,245
	Dense Urban	hectare	\$4,106,412	0.000	\$0	0.000	\$0
	Urban	hectare	\$2,737,608	1.214	\$3,323,612	1.214	\$3,323,612
	Dense Suburban	hectare	\$1,368,804	0.000	\$0	0.000	\$0
	Suburban	hectare	\$479,081	1.214	\$581,632	1.214	\$581,632
	Undeveloped	hectare	\$342,201	0.000	\$0	0.000	\$0
3 R	ight-of-Way Required for Maintenance and Storage Facility						
	nmental Mitigation						
E	nvironmental Mitigation (3% of Line Cost)				\$6,285,431.34		\$13,004,348.77
Syster	m Elements						
	ignaling (CTC) single track	km	\$93,750	20.71	\$1,941,563	0.00	\$0
2 S	ignaling (CTC with cab signals)(per track km)	km	\$115,625	0.00	\$0	41.42	\$4,789,188
	ignaling (CTC) double track	km	\$178,125	0.00	\$0	0.00	\$0
Electri	fication Items						
	raction Power Supply	km	\$432,365	0.00	\$0	20.71	\$8,954,270
2 T	raction Power Distribution	km	\$806,233	0.00	\$0	20.71	\$16,697,080
	e Costs						
1 F	leet size estimate	Trainset			\$0		\$0
	rt Facility Costs						
	acility cost breakdown	EA			\$0		\$0
	am Implementation Costs (PER SCREENING)						
	rogram Implementation Costs (25.5% Total Constr. & Procurement Cost)				\$51,929,590		\$116,307,627
	gencies (PER SCREENING)						
	Contingencies (25% of Total Construction Cost)				\$50,911,363		\$114,027,085
	Construction				\$203,645,451		\$456,108,342
	Construction and Right of Way (Includes Environmental Mitigat	tion)			\$213,836,127		\$473,017,935
Grand	Total				\$316,677,080		\$703,352,647

Allowards Cot		COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-2006)		NEWARK TO N	IILES JUNCTIO	N	NOTES
Track Trac				(TR NOV-2008)	Altern	ative 1	Alterr	native 2	
Description Section Food Section Sec	_				Quantities	Item Cost	Quantities	Item Cost	
Description		Double Track Section - Total							
Company Comp									
Deptile Prize Scient (1985) 1.00									
September Proceedings September Se	4			\$1,878,243		\$0		\$3,756,485	
Depth (1985) 1.00	5			\$496,583		\$3,788,932		\$0	
Telephone Process France									
February 1.5									
2 Description 1,000 1,			KM	\$496,583	0.000	\$0	0.000	\$0	
1									
Second									
Inches March Mar									
To Security Facinitis (600 Sees of 1970)									
Structures University Uni	7	Security Fencing (Both Sides of R/W)			9.800	\$996,982	8.600	\$874,902	
2 Burk Stockers					0.000	\$175,124	0.000	\$294,296	
2 November Security Property Prope	1	Standard Structure							
4 Montres (crosters, Printary 150 15									
A Person Storpe Trace Pull & Rene (c. A Misso)	4	Waterway Crossing - Primary	km	\$28,876,734	0.000	\$0	0.000	\$0	
2 Pure Stock True Title (Led Mine)	5 4	Waterway Crossing - Secondary (Irrig./Canal Crossing) Twin Single Track Drill & Blast (>6 Miles)							
9 Dougle Track Drift & Blast	7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.000	\$0	0.000	\$0	
10 Double Track Mired (Seth Rein)									
12 Consciourner 1.00 1	10	Double Track Mined (Soft Soil)		\$96,247,282	0.000	\$0	0.000	\$0	
12 Coat & Cover Double Track Turners									
15 Territor Long	13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	1.000	\$48,123,641	
Tell Ministration & Electrical for Tumoris									
18 Sequit Track Quarter Valles	16	Mechanical & Electrical for Tunnels			0.000		1.000		
19 Store Content Content Store	17	Retaining Walls							
1 Street Overroosing 184 C, Skutuban)	19	Single Track Cut and Cover Subway							
2 Street Overcossing 188 - (Used-Veloped) ea	Grac	le Separations	03	\$17 167 417	1 000	\$17 167 417	1,000	¢17 167 <i>4</i> 17	
4 Street Undercrossing ISSE (Other)									
5 Street Undercrossins ISSE - (Underchaped) ea \$ 56,000 \$ 2000 \$ 13,733,933 2,000 \$ 10,733,933 7 Street Bridging ISSE Trinch ea \$ 1,157,211 0,000 \$ 50 0,000 \$ 50 8 Minor Crossop Londones ea \$ 171,000 \$ 50 0,000 \$ 50 8 International Control ea \$ 171,000 \$ 500 \$ 50 0,000 \$ 50 8 International Control ea \$ 171,000 \$ 500 \$ 500 \$ 50 0,000 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
7 Street Bridging HSR Trench									
B. Minor crossing closures esa \$178,032 5,000 \$890,162 4,000 \$712,130				\$1,157,211					
O Grade crossing				\$178,032					
1 Terminal	9	Grade crossing			0.000		0.000		
2 Site Development/Parking (Ferninal Station)			LS	\$106.346.890	0.000	\$0	0.000	\$0	
4 Ste Development/Parking (Urban Station)	2	Site Development/Parking (Terminal Station)		\$26,586,722	0.000	\$0	0.000	\$0	
Suburban Lis \$26,586,722 1,000 \$26,586,722 1,000 \$26,586,722 1,000 \$26,586,722 1,000 \$26,686 1,000 1									
7 Rural									
Parking - Al Grade									
Target T									
Vards and Shops									
2	Yard								
Section Sect	2								
Sail and Utility Relocation			km	\$0	0.000	\$0	0.000	\$0	
1 Single Track Relocation (Temporary)			кm	\$0	0.000	\$0	0.000	\$0	
3 Single Track Removal km \$63,372 0.000 \$0 0.000 \$0	1	Single Track Relocation (Temporary)							
Major Utility Relocations - Dense Urban									
Major Utility Relocations - Dense Suburban	4	Major Utility Relocations - Dense Urban	km	\$890,162	0.000	\$0	0.000	\$0	
Table Major Utility Relocations - Suburban km \$273,407 1.755 \$479,829 1.755 \$479,829									
Right of Way Items	7	Major Utility Relocations - Suburban	km	\$273,407	1.755	\$479,829	1.755	\$479,829	
Right-of-Way Required for Each Segment			km	\$13,988	0.000	\$0	0.000	\$0	
Urban		Right-of-Way Required for Each Segment							
Dense Suburban									
Undeveloped		Dense Suburban	Hectares	\$1,368,804	0.000	\$0	0.000	\$0	
Right-of-Way Required for Passenger Station & Parking	 								
Hacilities U.000 \$0 U.000 U.00	2	Right-of-Way Required for Passenger Station & Parking	i icctai c3	9342,201					
Urban	É		Hectares	\$4 106 412					
Suburban		Urban	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
Undeveloped	 								
Signaling (CTC) single track Signal (STC) Signaling (CTC) single track Signal (STC) Signaling (CTC) single track Signal (STC) Signaling (STC)		Undeveloped							
Environmental Mitigation \$8,211,442 \$10,292,350	3				0.000		0.000		
System Elements		ronmental Mitigation			0.000	*****	0.000		
1 Signaling (CTC with cab signals)(per track km) km \$115,625 0.000 \$0 22.200 \$2,566,875 2 Signaling (CTC) single track km \$93,750 0.000 \$0 0.000 \$0						\$8,211,442		\$10,292,350	
	1	Signaling (CTC with cab signals)(per track km)				**			
3 Signaling (CTC) double track km \$178,125 9.800 \$1,745,625 0.000 \$0									

Electrification Items							
1 Traction Power Supply	0.000	\$0	9.600	\$4,150,700			
2 Traction Power Distribution	km	\$806,233	0.000	\$0	9.600	\$7,739,834	
Program Implementation Costs (PER SCREENING)							
Program Implementation Costs (25.5% Total Constr. & Procurement		\$69,797,253		\$92,522,158			
Contingencies (PER SCREENING)							
Contingencies (25% of Total Construction Cost)		\$68,428,680		\$90,707,998			
Total Construction				\$273,714,718		\$343,078,331	
Total Construction and ROW (Incl. Envir. Mitgtn)				\$291,387,472		\$362,831,993	
Grand Total		\$429,613,405		\$546,062,150			

Alignment Cost Track Homs Quantities Item Cost Unantities Item Cost Unantities Item Cost Unantities Item Cost I	
Double Track Section - Total	
Deckale Frack Section - Lotad Deckale Frack Section - In Turnet or Schooling Section - Lotad Deckale Frack Section - In Turnet or Schooling Section - Lotad Deckale Frack Section - In Turnet or Schooling Section - Lotad Deckale Frack Section - In Turnet or Schooling Section - Lotad Deckale Frack Section - In Turnet or Schooling Section - Lotad Deckale Frack Section - In Turnet or Schooling Section - Lotad Deckale Frack Section - In Turnet or Schooling Section - Lotad Deckale Frack Section - In Turnet or Schooling Section - Lotad Deckale Frack Section - In Turnet or Schooling Deckale	
1 Disculpt Frank Section - A Grande	
3 Double Track Section - In Turnet or Salway	
A Double Track Section - Internet Single Track Section - Total Imm	
5 Single Track Section - All Crades km \$496,9581 13.300 \$9,087,477 18.000 \$9,236,452 7 Single Track Section - In Turnet or Sultway km \$399,121 0.000 \$30 12.600 \$11,332,282 7 Single Track Section - In Turnet or Sultway km \$399,121 0.000 \$30 12.600 \$11,332,282 9 Fishly Track Section - In Turnet or Sultway km \$399,121 0.000 \$0 0.000 \$10 9 Fishly Track Accords km \$499,121 0.000 \$0 0.000 \$0 1 Sin Fregoration - Undoviloped Hectaren \$17,000 \$0 \$0 0.000 \$0 1 Sin Fregoration - Undoviloped Hectaren \$13,000 \$0 \$0 \$0 \$0 1 Sin Fregoration - Undoviloped Hectaren \$13,000 \$0 \$0 \$0 \$0 \$0 1 Sin Fregoration - Undoviloped Hectaren \$13,000 \$10 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0<	
6 Single Track Section - On Structure km \$993 12 0.300 \$281 1766 0.000 \$0 11.332, 928 8 Single Track Section - In Turner of Subway Izm \$939 121 0.000 \$0 0.	
8 Single Track Section - In Tench	
9 Prieght Double Track - Al-Crade Mm \$993.1c7 0.000 \$0 0.000 \$0 \$0 \$0 \$	
Size Preparation - Underweloped Nectares \$12,081 0,000 \$0 0,000 \$0 \$0 \$0 \$	
1 Site Preparation - Underweloped Mectanes \$12.081 0.000 \$0 0.000 \$0 1.010,009 000 \$14,331.094 3 Total Fill m3 \$9 0.000 \$0 0.000 \$0 0.000 \$50 0.000 \$50 0.000 \$50 0.000 \$50	
3 Total Fill	
4 Borrow	
6 Clandscape/Erosino Control 7 Security Fenoing (Both Sides of RVW) 8 m \$101,733 0,000 \$0 15,550 \$1,571,772 8 Special Drain, Facilities (5% of Earthwork Cost) 8 1 Standard Structure	
7 Security Fenoring (Both Sides of ENW) km \$101,733 \$ 0.000 \$0 \$15,450 \$15,71,772 \$ 8 \$ Special Drin. Facilities (SVs of Earthwork Cost) \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
Structures Structure Str	
1 Standard Structure	
3 Long Span Structure	
4 Materway Crossing - Primary Km \$28,876,734 0.200 \$5,775,347 0.200 \$5,775,347 5 Walterway Crossing - Scendary (Irrig, Canal Crossing) km \$23,119,226 0.100 \$2,311,923 0.100 \$2,311,923 6 Twin Single Track EM (Ac Miles) km \$75,040,254 0.000 \$0 0.000 \$0 7 Twin Single Track EM (Ac Miles) km \$75,040,254 0.000 \$0 0.000 \$0 0.000 8 Twin Single Track EM (Ac Miles) km \$75,040,254 0.000 \$0 0.000 \$0 0.000 \$0 0.000 9 Double Track Mile (Soft Soil) km \$78,846,643 0.000 \$0 0.0	
6 Twin Single Track Drill & Blast (<6 Miles) km \$75,040,254 0,000 \$0 0,000 \$0 \$0,000 \$0 \$	
T Twin Single Track TBM (<6 Miles)	
9 Double Track Drill & Blast	
10 Double Track Mined (Soft Soil) km \$96,247,282 0.000 \$0 1.250 \$120,309,102 11 Selsmic Chamber (Drill & Blast/Mined) ea \$94,803,899 0.000 \$0 0.000 \$0 0.000 \$0 12 Crossovers ea \$94,803,899 0.000 \$0 0.00	
12 Crossovers	
13 Cut & Cover Double Track Tunnel	
15 Tench Long	
16 Mechanical & Electrical for Tunnels km \$1,331,362 0.000 \$0 6.300 \$12,167,581 17 Retaining Walls km \$4,399,945 0.450 \$1,979,975 0.450 \$1,979,975 18 Containment Walls km \$1,500,559 0.000 \$0 0.000 \$0 19 Single Track Cut and Cover Subway km \$30,077,276 0.000 \$0 0.000 \$0 19 Single Track Cut and Cover Subway km \$30,077,276 0.000 \$0 0.000 \$0 19 Single Track Cut and Cover Subway km \$30,077,276 0.000 \$0 0.000 \$0 19 Single Track Cut and Cover Subway km \$30,077,276 0.000 \$0 0.000 \$0 19 Single Track Cut and Cover Subway km \$30,077,276 0.000 \$0 0.000 \$0 18 Single Track Cut and Cover Subway km \$30,077,276 0.000 \$0 0.000 \$0 19 Single Track Rev (Urban) ea \$17,167,417 0.000 \$0 0.000 \$12,970,937 2 Sireet Overcrossing HSR : (Unban) ea \$1,093,628 0.000 \$0 0.000 \$1,093,628 3 Sireet Undercrossing HSR : (Urban) ea \$1,793,0413 0.000 \$0 0.000 \$0 \$1,093,628 4 Street Undercrossing HSR : (Suburban) ea \$6,866,967 5.000 \$34,334,834 5.000 \$34,334,834 5 Sireet Undercrossing HSR : (Undeveloped) ea \$1,157,211 0.000 \$0 2.000 \$2,214,422 5 Street Undercrossing HSR : (Undeveloped) ea \$1,157,211 0.000 \$0 0.000 \$0 0.000 \$0 8 Minor crossing dosures ea \$178,032 1.000 \$178,032 1.000 \$178,032 9 9 Grade Grossing ea \$250,000 7.000 \$1,750,000 \$0 0.000 \$0 5 Stations, Including Parking LS \$10,346,890 0.000 \$0 0.000 \$0 2 Site Development/Parking (Urban Station) LS \$26,586,722 0.000 \$0 0.000 \$0 0.000 \$0 3 Urban LS \$31,293,361 0.000 \$0 0.000 \$0 0.000 \$0 4 Site Development/Parking (Suburban Station) LS \$36,686,722 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0 0.000 \$0	
Terminal Les	
Single Track Cut and Cover Subway	
Street Overcrossing HSR - (Usban)	
2 Street Overrorssing HSR - (Undeveloped) ea \$6,485,469 0.000 \$0 1.000 \$12,970,937 3	
4 Street Undercrossing HSR - (Urban)	
Street Undercrossing HSR - (Suburban)	
T Street Bridging HSR Trench ea 0.000 \$0 0.000 \$0	
8 Minor crossing closures ea \$178,032 1.000 \$178,032 1.000 \$178,032 1.000 \$178,032 9 (Grade crossing ea \$250,000 7.000 \$1,750,000 2.000 \$500,000	
Stations Including Parking	
1 Terminal	
3 Urban LS \$53,173,445 0.000 \$0 0.000 \$0 0.000 \$0	
4 Site Development/Parking (Urban Station) LS \$13,293,361 0.000 \$0 0.000 \$0 5 Suburban LS \$26,586,722 0.000 \$0 0.000 \$0 6 Site Development/Parking (Suburban Station) LS \$6,466,681 0.000 \$0 0.000 \$0 7 Rural LS \$13,293,361 0.000 \$0 0.000 \$0 8 Site Development/Parking (Rural Station) LS \$2,658,672 0.000 \$0 0.000 \$0 9 Parking - Structure space \$15,886 0.000 \$0 0.000 \$0	
6 Site Development/Parking (Suburban Station) LS \$6,646,681 0.000 \$0 0.000 \$0 7 Rural LS \$13,293,361 0.000 \$0 0.000 \$0 8 Site Development/Parking (Rural Station) LS \$2,658,672 0.000 \$0 0.000 \$0 9 Parking - Structure space \$15,886 0.000 \$0 0.000 \$0	
7 Rural LS \$13,293,361 0.000 \$0 0.000 \$0 80 8 8 8 8 8 18 Development/Parking (Rural Station) LS \$2,658,672 0.000 \$0 0.000 \$0 9 Parking - Structure space \$15,886 0.000 \$0 0.000 \$0	
9 Parking - Structure space \$15,886 0.000 \$0 0.000 \$0	
10 Parking - At Grade space \$2,277 0.000 \$0 0.000 \$0	
Yards and Shops	
2 km \$0 0.000 \$0 0.000 \$0	
3 km \$0 0.000 \$0 0.000 \$0 4 km \$0 0.000 \$0 0.000 \$0	
Rail and Utility Relocation	
1 Single Track Relocation (Temporary) km \$1,271,661 0.000 \$0 0.000 \$0 2 Single Track Relocation (Permanent) km \$1,271,661 0.000 \$0 0.000 \$0	
3 Single Track Removal km \$63,372 11.350 \$719,278 11.350 \$719,278	
4 Major Utility Relocations - Dense Urban km \$890,162 0.000 \$0 0.000 \$0 5 Major Utility Relocations - Urban km \$680,338 0.668 \$454,466 0.668 \$454,466	
6 Major Utility Relocations - Dense Suburban km \$476,873 0.000 \$0 0.000 \$0	
7 Major Utility Relocations - Suburban km \$273,407 0.500 \$136,704 0.500 \$136,704 8 Major Utility Relocations - Undeveloped km \$13,988 0.000 \$0 7.422 \$103,821	
Right of Way Items	
1 Right-of-Way Required for Each Segment Dense Urban Hectares \$4,106,412 0.000 \$0 0.000 \$0	
Urban Hectares \$2,737,608 0.000 \$0 7.961 \$21,794,099	
Dense Suburban	
Undeveloped Hectares \$342,201 0.000 \$0 4.715 \$1,613,478	
Environmental Mitigation Environmental Mitigation (3% of Line Cost) \$1,820,682 \$19,753,924	
System Elements System Elements	
1 Signaling (CTC with cab signals) (per track km) km \$115,625 0.000 \$0 37.300 \$4,312,813 2 Signaling (CTC) single track km \$93,750 0.000 \$0 0.000 \$0	
3 Signaling (CTC) double track km \$178,125 18.600 \$3,313,125 0.000 \$0	
Electrification I tems 1 Traction Power Supply km \$432,365 0.000 \$0 18.600 \$8,041,981	
2 Traction Power Distribution km \$806,233 0.000 \$0 18.600 \$14,995,929	
Program Implementation Costs (PER SCREENIN Program Implementation Costs (25.5% Total Constr. & Procurement Cost) \$15,382,339 \$167,908,352	
Contingencies (PER SCREENING)	
Contingencies (25% of Total Construction Cost) \$15,080,724 \$164,616,031 Total Construction \$60,322,896 \$658,464,124	
Total Construction and ROW (Incl. Envir. Mitgtn) \$62,510,075 \$701,992,122	
Grand Total \$92,973,138 \$1,034,516,504	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-	PLEASANTON TO LIVERMORE				NOTES
			2006)	Altern	ative 1	Alter	native 2	
_	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
	buble Track Section - Total	km		9.20		9.20		
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	0.000 9.204	\$0 \$17,287,345	0.000 9.204	\$0 \$17,287,345	
3	Double Track Section - In Tunnel or Subway Double Track Section - In Trench	km km	\$1,878,243 \$1,878,243	0.000	\$0 \$0	0.000	\$0 \$0	
	Single Track Section - Total	km		0.000	\$0	9.204		
6	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	0.000	\$0	0.000 9.204	\$0 \$8,643,672	
- 7 - 8	Single Track Section - In Trench	km km	\$939,121 \$939,121	0.000	\$0 \$0	0.000	\$0 \$0	
	Freight Double Track - At-Grade Freight Single Track - At-Grade	km km	\$993,167 \$496,583	0.000	\$0 \$0	0.000	\$0 \$0	
Eart	hwork Items Site Preparation - Undeveloped			0.000	\$0	0.000	\$0	
2	Total Cut	Hectares m3	\$12,081 \$9	0.000	\$0	0.000	\$0	
4	Total Fill Borrow	m3 m3	\$9 \$13	0.000	\$0 \$0	0.000	\$0 \$0	
	Spoil Landscape/Erosion Control	m3 Hectares	\$0 \$8.075	0.000	\$0 \$0	0.000	\$0 \$0	
7	Security Fencing (Both Sides of R/W)	km	\$101,733	0.000	\$0 \$0	0.000	\$0 \$0	
Stru	Special Drain. Facilities (5% of Earthwork Cost) ctures, Tunnels, Walls		**** 700 000					
	Standard Structure High Structure	km km	\$13,733,933 \$16,480,720	0.000	\$0 \$0	1.150 8.104	\$15,794,023 \$133,559,756	
3	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.000 0.070	\$0 \$2,021,371	0.000	\$0 \$0	
5	Waterway Crossing - Secondary (Irrig./Canal Crossin Twin Single Track Drill & Blast (<6 Miles)	km km	\$23,119,226 \$75,040,254	0.000	\$0 \$0	0.000	\$0 \$0	
- 7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
9	Twin Single Track TBM w/3rd Tube (>6 Miles) Double Track Drill & Blast	km km	\$78,846,643 \$83,740,573	0.000	\$0	0.000	\$0	
	Double Track Mined (Soft Soil) Seismic Chamber (Drill & Blast/Mined)	km ea	\$96,247,282 \$94,803,899	0.000	\$0 \$0	0.000	\$0 \$0	
	Crossovers Cut & Cover Double Track Tunnel	ea km	\$94,803,899 \$48,123,641	0.000	\$0 \$0	0.000	\$0 \$0	
14	Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
16	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.000	\$0 \$0	0.000	\$0 \$0	
	Retaining Walls Containment Walls	km km	\$4,399,945 \$1,500,559	0.000	\$0 \$0	0.000 9.204	\$0 \$13,811,149	
19 Grad	Single Track Cut and Cover Subway le Separations	km	\$30,077,276	0.000	\$0	0.000	\$0	
1	Street Overcrossing HSR - (Urban)	ea	\$17,167,417	0.000	\$0	0.000	\$0	
	Street Overcrossing HSR - (Suburban) Street Overcrossing HSR - (Undeveloped)	ea ea	\$6,485,469 \$1,093,628	4.000 0.000	\$25,941,874 \$0	4.000 0.000	\$25,941,874 \$0	
- 4 5	Street Undercrossing HSR - (Urban) Street Undercrossing HSR - (Suburban)	ea ea	\$17,930,413 \$6,866,967	0.000 4.000	\$0 \$27,467,867	0.000 4.000	\$0 \$27,467,867	
6		ea ea	\$1,157,211	0.000	\$0 \$0	0.000	\$0 \$0	
8	Minor crossing closures	ea	\$178,032	3.000	\$534,097	3.000	\$534,097	
Stat	Grade crossing ions, Including Parking	ea	\$250,000	0.000	\$0	0.000	\$0	
2		LS LS	\$106,346,890 \$26,586,722	0.000	\$0 \$0	0.000	\$0 \$0	
3	Urban Site Development/Parking (Urban Station)	LS LS	\$53,173,445 \$13,293,361	0.000	\$0 \$0	0.000	\$0 \$0	
5	Suburban Site Development/Parking (Suburban Station)	LS	\$26,586,722	2.000	\$53,173,445	3.000	\$79,760,167 \$19,940,042	
7	Rural	LS	\$6,646,681 \$13,293,361	0.000	\$13,293,361 \$0	0.000	\$0	
9	Parking - Structure	LS space	\$2,658,672 \$15,886	0.000	\$0 \$0	0.000	\$0 \$0	
	Parking - At Grade is and Shops	space	\$2,277	0.000	\$0	0.000	\$0	
1 2		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
3		km	\$0	0.000	\$0	0.000	\$0	
	and Utility Relocation	km	\$0	0.000	\$0	0.000	\$0	
	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661	0.000 2.594	\$0 \$3,298,687	0.000 9.204	\$0 \$11,704,363	
3	Single Track Removal Major Utility Relocations - Dense Urban	km km	\$63,372 \$890,162	0.000	\$0 \$0	0.000	\$0 \$0	
5	Major Utility Relocations - Urban Major Utility Relocations - Dense Suburban	km km	\$680,338 \$476,873	1.116 0.000	\$759,394 \$0	1.116 0.000	\$759,394 \$0	
7	Major Utility Relocations - Suburban	km	\$273,407	3.077	\$841,273	3.077	\$841,273	
	Major Utility Relocations - Undeveloped t of Way Items	km	\$13,988	5.006	\$70,029	5.006	\$70,029	
	Right-of-Way Required for Each Segment Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804	1.701 0.000	\$4,656,672 \$0	1.701 0.000	\$4,656,672 \$0	
	Suburban	Hectares	\$479,081	4.689	\$2,246,412	4.689	\$2,246,412	
2	Undeveloped Right-of-Way Required for Passenger Station &	Hectares	\$342,201	7.630	\$2,610,993	7.630	\$2,610,993	
É	Parking Facilities Dense Urban	Hectares	\$4,106,412	0.000	\$3,323,612 \$0	0.000	\$4,985,419	
H	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804	0.000 2.428	\$0 \$3,323,612.44	0.000 3.642	\$4,985,418.66	
	Suburban Undeveloped	Hectares Hectares	\$479,081 \$342,201	0.000		0.000	, , , , , , , , , , , , ,	
3	Right-of-Way Required for Maintenance and	riculates	\$34Z,ZUT	0.000		0.000		
En	ronmental Mitigation vironmental Mitigation (3% of Line Cost)				\$4,415,700		\$11,152,954	
Syst 1	sem Elements Signaling (CTC with cab signals)(per track km)	km	\$115,625	0.000	\$0	36.800	\$4,255,000	
2	Signaling (CTC) single track Signaling (CTC) double track	km km	\$93,750 \$178,125	9.200 9.200	\$862,500 \$1,638,750	0.000	\$0 \$0	
Elec	trification I tems							
2	Traction Power Supply Traction Power Distribution	km km	\$432,365 \$806,233	0.000	\$0 \$0	9.200 9.200	\$3,977,754 \$7,417,341	
Pro	gram Implementation Costs (PER SCREENI ogram Implementation Costs (25.5% Total Constr. & Procu				\$37,533,449		\$94,800,113	
Con	tingencies (PER SCREENING) ntingencies (25% of Total Construction Cost)				\$36,797,499		\$92,941,287	
Tota	Il Construction Il Construction and ROW (Incl. Envir. Mitgt	n)			\$147,189,994 \$161,119,771		\$371,765,148 \$392,432,179	
	nd Total	,			\$235,450,718		\$580,173,579	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		Livermore to Tra		NOTES	
			2006)	Alterna	ative 1	Altern	ative 2	
	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
Tra	Double Track Section - Total	km		2.00		33.35		
1	Double Track Section - At-Grade	km	\$993,167	0.000	\$0	23.999	\$23,835,011	
	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km km	\$1,878,243 \$1,878,243	2.000 0.000	\$3,756,485 \$0	9.350 0.000	\$17,561,568 \$0	
	Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0	
5	Single Track Section - Total Single Track Section - At Grade	km km	\$496,583	33.630 29.200	\$14,500,236	0.000 0.000	\$0	
6 7		km km	\$939,121 \$939,121	4.430 0.000	\$4,160,307 \$0	0.000	\$0 \$0	
8	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade Freight Single Track - At-Grade	km km	\$993,167 \$496,583	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
Ear	thwork Items							
	Site Preparation - Undeveloped Total Cut	Hectares m3	\$12,081 \$9	0.000 6.660.000	\$0 \$59,285	0.000 23,589,130.000	\$0 \$209.981.555	
3	Total Fill	m3	\$9	0.000	\$0	6,705,730.000	\$59,691,884	
5	Borrow Spoil	m3 m3	\$13 \$0	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
6	Landscape/Erosion Control Security Fencing (Both Sides of R/W)	Hectares km	\$8,075 \$101,733	0.000	\$0	0.000	\$0	
	Special Drain. Facilities (5% of Earthwork Cost)	KIII	\$101,733	1.800 0.000	\$183,119 \$12,120	4.650 0.000	\$473,058 \$13,507,325	
	Ictures, Tunnels, Walls Standard Structure	km	\$13,733,933	0.000	\$0	3.330	\$45,733,998	
2	High Structure	km	\$16,480,720	0.000	\$0	5.470	\$90,149,539	
	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
5	Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.000	\$0	0.000	\$0	
	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
10	Double Track Drill & Blast Double Track Mined (Soft Soil)	km km	\$83,740,573 \$96,247,282	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
11	Seismic Chamber (Drill & Blast/Mined)	ea ea	\$94,803,899 \$94,803,899	0.000	\$0 \$0	0.000	\$0 \$0	
13		km	\$48,123,641	0.000	\$0	0.000	\$0	
14		km	\$49,668,587 \$39,272,836	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
16	Mechanical & Electrical for Tunnels	km km	\$1,931,362	0.000	\$0	0.000	\$0	
	7 Retaining Walls 3 Containment Walls	km km	\$4,399,945 \$1,500,559	0.000 0.000	\$0 \$0	19.350 0.000	\$85,138,942 \$0	
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$0	0.000	\$0	
	de Separations Street Overcrossing HSR - (Urban)	ea	\$17,167,417	0.000	\$0	0.000	\$0	
2	Street Overcrossing HSR - (Suburban)	ea	\$6,485,469	0.000	\$0	1.000	\$6,485,469	
3 4	Street Overcrossing HSR - (Undeveloped) Street Undercrossing HSR - (Urban)	ea ea	\$1,093,628 \$17,930,413	0.000 0.000	\$0 \$0	1.000 2.000	\$1,093,628 \$35,860,826	
5	Street Undercrossing HSR - (Suburban)	ea	\$6,866,967	0.000	\$0	1.000	\$6,866,967	
7	Street Undercrossing HSR - (Undeveloped) Street Bridging HSR Trench	ea ea	\$1,157,211	0.000 0.000	\$0 \$0	2.000 0.000	\$2,314,422 \$0	
	Minor crossing closures Grade crossing	ea ea	\$178,032 \$250,000	3.000 8.000	\$534,097 \$2,000,000	3.000 0.000	\$534,097 \$0	
Sta	tions, Including Parking							
	Terminal Site Development/Parking (Terminal Station)	LS LS	\$106,346,890 \$26,586,722	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
3	Urban	LS	\$53,173,445	0.000	\$0	0.000	\$0	
	Site Development/Parking (Urban Station) Suburban	LS LS	\$13,293,361 \$26,586,722	0.000 1.000	\$0 \$26,586,722	0.000 2.000	\$0 \$53,173,445	
- 6	Site Development/Parking (Suburban Station)	LS	\$6,646,681	1.000	\$6,646,681	2.000	\$13,293,361	
8	Rural Site Development/Parking (Rural Station)	LS LS	\$13,293,361 \$2,658,672	1.000 1.000	\$13,293,361 \$2,658,672	0.000	\$0 \$0	
	Parking - Structure Parking - At Grade	space space	\$15,886 \$2,277	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
	ds and Shops							
1		km km	\$0 \$0	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
3		km	\$0	0.000	\$0	0.000	\$0	
Rail	and Utility Relocation	km	\$0	0.000	\$0	0.000	\$0	
1	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
3	Single Track Removal	km	\$63,372	0.000	\$0	6.230	\$0 \$394,811	
	Major Utility Relocations - Dense Urban Major Utility Relocations - Urban	km km	\$890,162 \$680,338	0.000 2.990	\$0 \$2,034,416	0.000 4.026	\$0 \$2,739,178	
- 6	Major Utility Relocations - Dense Suburban	km	\$476,873	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Suburban Major Utility Relocations - Undeveloped	km km	\$273,407 \$13,988	1.362 1.907	\$372,490 \$26,677	6.179 23.175	\$1,689,355 \$324,178	
Rig	ht of Way Items	1	Ţ.2,.00		,.	· · ·		
	1 Right-of-Way Required for Each Segment Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804	4.557 0.000	\$12,475,281 \$0	6.135 0.000	\$16,795,227	
	Suburban	Hectares	\$479,081	2.076	\$994,573	9.416	\$0 \$4,511,030	
Fnv	Undeveloped ironmental Mitigation	Hectares	\$342,201	9.003	\$3,080,835	29.984	\$10,260,554	
En	vironmental Mitigation (3% of Line Cost)				\$2,640,956		\$21,665,231	
Sys 1	tem Elements Signaling (CTC with cab signals)(per track km)	km	\$115,625	0.000	\$3,169,968	66.700	\$7,712,188	
2	Signaling (CTC) single track	km	\$93,750	0.000	\$1,690,649	0.000	\$0	
Elec	Signaling (CTC) double track	km	\$178,125	35.630	\$6,346,594	0.000	\$0	
1	Traction Power Supply Traction Power Distribution	km LS	\$807,783	0.000	\$0 \$0	33.350	\$26,939,563	
Pro	gram Implementation Costs (PER SCREENII	·		0.000		<u> </u>	\$16,680,000	
Pr	ogram Implementation Costs (25.5% Total Constr. & Procurementatingencies (PER SCREENING)	nt Cost)			\$27,341,999		\$197,728,634	
Co	ntingencies (25% of Total Construction Cost)				\$26,805,881		\$193,851,602	
Tota	al Construction al Construction and ROW (Incl. Envir. Mitgtr	1)			\$88,031,880 \$107,223,525		\$722,174,368 \$775,406,409	
	nd Total				\$161,371,406		\$1,166,986,645	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		Tracy to Stockt		NOTES	
			2006)	Alterna	ative 1	Alterna	ative 2	
_	ment Cost			Quantities	Item Cost	Quantities	Item Cost	
Trac	C Items Double Track Section - Total	km		0.00		34.56		
2	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	0.000	\$0 \$0	32.406 2.150	\$32,184,565 \$4,038,222	
	Double Track Section - In Tunnel or Subway Double Track Section - In Trench	km km	\$1,878,243 \$1,878,243	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
	Single Track Section - Total	km		34.556		20.540		
5 6	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	32.406 2.150	\$16,092,283 \$2,019,111	18.890 1.650	\$9,380,461 \$1,549,550	
	Single Track Sections - In Tunnel or Subway Single Track Section - In Trench	km km	\$939,121 \$939,121	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
9	Freight Double Track - At-Grade	km	\$993,167	0.000	\$0	0.000	\$0	
Earth	Freight Single Track - At-Grade	km	\$496,583	0.000	\$0	0.000	\$0	
1	Site Preparation - Undeveloped Total Cut	Hectares m3	\$12,081 \$9	0.000 721,305.000	\$0 \$6,420,786	0.000 2,163,915.000	\$0 \$19,262,357	
3	Total Fill	m3	\$9	1,010,630.000	\$8,996,248	2,538,661.000	\$22,598,205	
5	Borrow Spoil	m3 m3	\$13 \$0	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
6 7	Landscape/Erosion Control Security Fencing (Both Sides of R/W)	Hectares km	\$8,075 \$101,733	0.000 23.168	\$0 \$2,356,946	0.000 23.168	\$0 \$2,356,946	
8	Special Drain. Facilities (5% of Earthwork Cost)	MII	\$101,700	0.000	\$888,699	0.000	\$2,210,875	
	ctures, Tunnels, Walls Standard Structure	km	\$13,733,933	0.000	\$0	0.000	\$0	
	High Structure Long Span Structure	km km	\$16,480,720 \$37,577,568	0.500 0.000	\$8,240,360 \$0	0.500 0.000	\$8,240,360 \$0	
4	Waterway Crossing - Primary	km	\$28,876,734	0.900	\$25,989,061	0.900	\$25,989,061	
6	Waterway Crossing - Secondary (Irrig./Canal Crossing) Twin Single Track Drill & Blast (<6 Miles)	km km	\$23,119,226 \$75,040,254	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
7 8	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535 \$78,846,643	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
9	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
10 11	Double Track Mined (Soft Soil) Seismic Chamber (Drill & Blast/Mined)	km ea	\$96,247,282 \$94,803,899	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
	Crossovers Cut & Cover Double Track Tunnel	ea km	\$94,803,899 \$48,123,641	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
14	Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
15	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
	Retaining Walls Containment Walls	km km	\$4,399,945 \$1,500,559	9.938 0.000	\$43,726,657 \$0	9.938 34.556	\$43,726,657 \$51,853,330	
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$0	0.000	\$0	
1	e Separations Street Overcrossing HSR - (Urban)	ea	\$17,167,417	0.000	\$0	0.000	\$0	
3	Street Overcrossing HSR - (Suburban) Street Overcrossing HSR - (Undeveloped)	ea	\$6,485,469 \$1,093,628	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
4	Street Undercrossing HSR - (Urban)	ea	\$17,930,413	1.000	\$17,930,413	3.000	\$53,791,239	
	Street Undercrossing HSR - (Suburban) Street Undercrossing HSR - (Undeveloped)	ea ea	\$6,866,967 \$1,157,211	0.000 2.000	\$0 \$2,314,422	0.000 8.000	\$0 \$9,257,688	
	Street Bridging HSR Trench Minor crossing closures	ea ea	\$178,032	0.000	\$0 \$0	0.000	\$0 \$0	
9	Grade crossing	ea	\$250,000	8.000	\$2,000,000	0.000	\$0	
	ons, Including Parking Terminal	LS	\$106,346,890	0.000	\$0	0.000	\$0	
2	Site Development/Parking (Terminal Station) Urban	LS LS	\$26,586,722 \$53,173,445	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
4	Site Development/Parking (Urban Station)	LS	\$13,293,361	0.000	\$0	0.000	\$0	_
5 6	Suburban Site Development/Parking (Suburban Station)	LS LS	\$26,586,722 \$6,646,681	1.000 0.000	\$26,586,722 \$0	1.000 0.000	\$26,586,722 \$0	Tracy
	Rural Site Development/Parking (Rural Station)	LS LS	\$13,293,361 \$2,658,672	1.000 0.000	\$13,293,361 \$0	1.000 0.000	\$13,293,361 \$0	Lathrop platform reconstruction
9	Parking - Structure	space	\$15,886	0.000	\$0	0.000	\$0	
	Parking - At Grade s and Shops	space	\$2,277	0.000	\$0	0.000	\$0	
1 2		km km	\$0 \$0	0.000 0.000	\$0 \$0	0.000	\$0 \$0	
3		km	\$0	0.000	\$0	0.000	\$0	
	and Utility Relocation	km	\$0	0.000	\$0	0.000	\$0	
	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661	0.000 0.000	\$0 \$0	0.000 20.540	\$0 \$26,119,907	
3	Single Track Removal	km km	\$63,372 \$890,162	0.000	\$0 \$0	0.000 0.000	\$0 \$0	
5	Major Utility Relocations - Dense Urban Major Utility Relocations - Urban	km	\$680,338	0.000 18.044	\$12,275,753	18.044	\$12,275,753	
	Major Utility Relocations - Dense Suburban Major Utility Relocations - Suburban	km km	\$476,873 \$273,407	0.000 2.048	\$0 \$559,938	0.000 2.048	\$0 \$559,938	
8	Major Utility Relocations - Undeveloped	km	\$13,988	14.470	\$202,403	14.470	\$202,403	
rcign 1	t of Way Items Right-of-Way Required for Each Segment							
	Dense Urban Urban	Hectares Hectares	\$4,106,412 \$2,737,608	0.000 0.000	\$0 \$0	0.000 27.480	\$0 \$75,229,474	
	Dense Suburban Suburban	Hectares Hectares	\$1,368,804 \$479,081	0.000	\$0 \$0	0.000 3.113	\$0 \$1,491,380	
	Undeveloped	Hectares	\$479,081	0.000	\$0 \$0	22.046	\$7,544,162	
2	Right-of-Way Required for Passenger Station & Parking Facilities			0.000		0.000		
\vdash	Dense Urban Urban	Hectares Hectares	\$4,106,412 \$2,737,608	0.000	\$0	0.000		
	Dense Suburban	Hectares	\$1,368,804	1.214	\$1,661,806.22	1.214	\$1,661,806.22	
	Suburban Undeveloped	Hectares Hectares	\$479,081 \$342,201	0.000 0.000		0.000 0.000		
3	Right-of-Way Required for Maintenance and Storage Facility		7.2 12,201	0.000		0.000		
Envi	ronmental Mitigation ronmental Mitigation (3% of Line Cost)				\$5,881,454		\$15,255,772	
Syste	em Elements							
	Signaling (CTC with cab signals)(per track km) Signaling (CTC) single track	km km	\$115,625 \$93,750	0.000	\$0 \$0	138.224 0.000	\$15,982,150 \$0	
4	Signaling (CTC) double track rification Items	km	\$178,125	34.556	\$6,155,288	0.000	\$0	
1	Traction Power Supply	km	\$432,365	0.000	\$0	34.556	\$14,940,790	
	Traction Power Distribution ram Implementation Costs (PER SCREENIN	km	\$806,233	0.000	\$0	34.556	\$27,860,179	
Prog	ram Implementation Costs (25.5% Total Constr. & Procuremer ingencies (PER SCREENING)	nt Cost)			\$49,992,355		\$108,186,484	
Con	tingencies (25% of Total Construction Cost)				\$50,482,476		\$130,945,378	

Total Construction	\$196,048,451	\$424,260,721	
Total Construction and ROW (Incl. Envir. Mitgtn)	\$201,929,904	\$523,781,510	
Grand Total	\$302,404,735	\$762,913,371	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		TRACY TO	PATTERSON		NOTES
			2006)	Altern	ative 1	Alterr	native 2	
_	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
	Double Track Section - Total	km		0.000		39.000		
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	0.000	\$0 \$0	39.000 0.000	\$38,733,507 \$0	
3	Double Track Section - In Tunnel or Subway Double Track Section - In Trench	km km	\$1,878,243 \$1.878,243	0.000	\$0 \$0	0.000	\$0 \$0	
	Single Track Section - Total	km		39.000		0.000		
6	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	39.000 0.000	\$19,366,754 \$0	0.000	\$0 \$0	
	Single Track Sections - In Tunnel or Subway Single Track Section - In Trench	km km	\$939,121 \$939,121	0.000	\$0 \$0	0.000	\$0 \$0	
9	Freight Double Track - At-Grade Freight Single Track - At-Grade	km km	\$993,167 \$496,583	0.000	\$0 \$0	0.000	\$0 \$0	
Eart	hwork Items							
2	Site Preparation - Undeveloped Total Cut	Hectares m3	\$12,081 \$9	0.000	\$0 \$0	0.000	\$0 \$0	
	Total Fill Borrow	m3 m3	\$9 \$13	0.000	\$0 \$0	0.000	\$0 \$0	
5	Spoil Landscape/Erosion Control	m3 Hectares	\$0 \$8,075	0.000	\$0	0.000	\$0 \$0	
7	Security Fencing (Both Sides of R/W)	km	\$101,733	0.000	\$0 \$0	0.000	\$0	
	Special Drain. Facilities (5% of Earthwork Cost) ctures, Tunnels, Walls				\$0		\$0	
1	Standard Structure High Structure	km km	\$13,733,933 \$16,480,720	0.000	\$0 \$0	0.000	\$0 \$0	
3	Long Span Structure	km	\$37,577,568	0.000	\$0	0.000	\$0	
5	Waterway Crossing - Primary Waterway Crossing - Secondary (Irrig./Canal Crossing)	km km	\$28,876,734 \$23,119,226	0.000	\$0 \$693,577	0.000	\$0 \$693,577	
6	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast Double Track Mined (Soft Soil)	km km	\$83,740,573 \$96,247,282	0.000	\$0 \$0	0.000	\$0 \$0	
11	Seismic Chamber (Drill & Blast/Mined) Crossovers	ea ea	\$94,803,899 \$94,803,899	0.000	\$0 \$0	0.000	\$0 \$0	
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
15	Trench Short Trench Long	km km	\$49,668,587 \$39,272,836	0.000	\$0 \$0	0.000	\$0 \$0	
	Mechanical & Electrical for Tunnels Retaining Walls	km km	\$1,931,362 \$4,399,945	0.000	\$0 \$0	0.000	\$0 \$0	
18	Containment Walls	km	\$1,500,559	0.000	\$0	39.000	\$58,521,816	
	Single Track Cut and Cover Subway e Separations	km	\$30,077,276	0.000	\$0	0.000	\$0	
	Street Overcrossing HSR - (Urban) Street Overcrossing HSR - (Suburban)	ea ea	\$17,167,417 \$6,485,469	0.000	\$0 \$0	0.000	\$0 \$0	
3	Street Overcrossing HSR - (Undeveloped)	ea	\$1,093,628	0.000	\$0	1.000	\$1,093,628	
	Street Undercrossing HSR - (Urban) Street Undercrossing HSR - (Suburban)	ea ea	\$17,930,413 \$6,866,967	0.000	\$0 \$0	0.000	\$0 \$0	
	Street Undercrossing HSR - (Undeveloped) Street Bridging HSR Trench	ea ea	\$1,157,211	0.000	\$0 \$0	0.000	\$0 \$0	
8	Minor crossing closures	ea	\$178,032	4.000 19.000	\$712,130	5.000 17.000	\$890,162	
Stat	Grade crossing ons, Including Parking	ea	\$250,000		\$4,750,000		\$4,250,000	
	Terminal Site Development/Parking (Terminal Station)	LS LS	\$106,346,890 \$26,586,722	0.000	\$0 \$0	0.000	\$0 \$0	
3	Urban Site Development/Parking (Urban Station)	LS LS	\$53,173,445 \$13,293,361	0.000	\$0 \$0	0.000	\$0 \$0	
5	Suburban	LS	\$26,586,722	1.000	\$26,586,722	1.000	\$26,586,722	
	Site Development/Parking (Suburban Station) Rural	LS LS	\$6,646,681 \$13,293,361	1.000 1.000	\$6,646,681 \$13,293,361	1.000	\$6,646,681 \$13,293,361	
	Site Development/Parking (Rural Station) Parking - Structure	LS space	\$2,658,672 \$15,886	1.000 0.000	\$2,658,672 \$0	1.000 0.000	\$2,658,672 \$0	
10	Parking - At Grade	space	\$2,277	0.000	\$0	0.000	\$0	
1	s and Shops	km	\$0	0.000	\$0	0.000	\$0	
3		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
4		km	\$0	0.000	\$0	0.000	\$0	
1	and Utility Relocation Single Track Relocation (Temporary)	km	\$1,271,661	0.000	\$0	0.000	\$0	
	Single Track Relocation (Permanent) Single Track Removal	km km	\$1,271,661 \$63,372	0.000 39.000	\$0 \$2,471,527	0.000 39.000	\$0 \$2,471,527	
	Major Utility Relocations - Dense Urban Major Utility Relocations - Urban	km	\$890,162 \$680.338	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Dense Suburban	km km	\$476,873	0.000	\$0 \$0	0.000	\$0 \$0	
8	Major Utility Relocations - Suburban Major Utility Relocations - Undeveloped	km km	\$273,407 \$13,988	0.000	\$0 \$0	0.000	\$0 \$0	
Righ	t of Way Items Right-of-Way Required for Each Segment							
Ė	Dense Urban	Hectares	\$4,106,412 \$2,737,608	0.000	\$0	0.000	\$0	
	Urban Dense Suburban	Hectares Hectares	\$1,368,804	0.000	\$0 \$0	0.000	\$0 \$0	
	Suburban Undeveloped	Hectares Hectares	\$479,081 \$342,201	0.000	\$0 \$0	59.436 0.000	\$28,474,679 \$0	
2	Right-of-Way Required for Passenger Station & Parking		,	0.000	43	0.000	# 3	
Ė	Facilities Dense Urban	Hectares	\$4,106,412					
	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804	0.000	\$0 \$0		\$0 \$0	
	Suburban	Hectares	\$479,081	2.428	\$1,163,264	2.428	\$1,163,264	
	Undeveloped Right-of-Way Required for Maintenance and Storage Facility	Hectares	\$342,201					
	ronmental Mitigation							
Enν	ironmental Mitigation (3% of Line Cost) em Elements				\$2,400,510		\$7,201,847	
1	Signaling (CTC with cab signals)(per track km)	km	\$115,625	0.000	\$0	78.000	\$6,278,673	
	Signaling (CTC) single track Signaling (CTC) double track	km km	\$93,750 \$178,125	39.000	\$1,674,313 \$0		\$0 \$0	
Elec	trification Items Traction Power Supply	km	\$432,365	0.000	\$0	39.000	\$16,862,218	
2	Traction Power Distribution	km	\$432,365 \$806,233	0.000	\$0 \$0	39.000	\$10,862,218	
Pro	ram Implementation Costs (PER SCREENI gram Implementation Costs (25.5% Total Constr. & Procureme	nt Cost)			\$20,107,703		\$53,658,024	
Cont	ingencies (PER SCREENING) stingencies (25% of Total Construction Cost)				\$19,713,434		\$52,605,906	
Tota	I Construction	m)			\$78,853,737		\$210,423,624	
	I Construction and ROW (Incl. Envir. Mitgind Total	111)			\$82,417,511 \$122,238,648		\$247,263,414 \$353,527,344	
					, , _ 00 , 040		100,02,,044	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		OAKLAND T	O SAN JOSE		NOTES
			2006)	Alteri	native 1	Alteri	native 2	
ligr	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
rac	k Items							
	Double Track Section - Total	km	4000 447	21.56	**********	63.31	400.007.044	
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	21.564 0.000	\$21,416,806	38.600	\$38,336,241 \$42,055,729	
	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0 \$0	22.391 1.220	\$42,055,729	
	Double Track Section - In Trumler of Subway Double Track Section - In Trench	km	\$1,878,243	0.000	\$0 \$0	1.100	\$2,066,067	
_	Single Track Section - Total	km	ψ1,070,243	37.496	40	32.212	\$2,000,007	
5	Single Track Section - At Grade	km	\$496,583	37.496	\$18,619,835	28.162	\$13,984,855	
6	Single Track Section - On Structure	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	8.100	\$7,606,882	
	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade	km	\$993,167	0.000	\$0	0.000	\$0	
	Freight Single Track - At-Grade	km	\$496,583	47.361	\$23,518,530	21.564	\$10,708,403	
	Four-track construction or reconstruction nwork Items	km	\$1,887,657	0.000	\$0	0.000	\$0	
	Site Preparation - Undeveloped	Hectares	\$12,081	0.000	\$0	0.000	\$0	
	Total Cut	m3	\$12,001	0.000	\$0 \$0	213,816.000	\$1,903,310	
3	Total Fill	m3	\$9	0.000	\$0	213,816.000	\$1,903,310	
4	Borrow	m3	\$13	0.000	\$0	0.000	\$0	
5	Spoil	m3	\$0	0.000	\$0	0.000	\$0	
	Landscape/Erosion Control	Hectares	\$8,075	0.000	\$0	0.000	\$0	
	Security Fencing (Both Sides of R/W)	km	\$101,733	0.000	\$0	29.200	\$2,970,599	
	Special Drain. Facilities (5% of Earthwork Cost)	L			\$0		\$338,861	
	ctures, Tunnels, Walls	1	610 700 000	2.000	¢04 404 040	0.447	¢42.214.050	
	Standard Structure High Structure	km km	\$13,733,933 \$16,480,720	2.289 0.000	\$31,431,913 \$0	3.147 20.100	\$43,214,259 \$331,262,475	
	Long Span Structure	km km	\$16,480,720 \$37,577,568	0.000	\$0 \$0	0.000	\$331,262,475 \$0	
	Waterway Crossing - Primary	km	\$28,876,734	0.749	\$21,624,546	0.000	\$7,208,182	
	Waterway Crossing - Frinary Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.091	\$2,113,919	0.000	\$7,200,182	
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.000	\$0	0.000	\$0	
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.000	\$0	4.050	\$224,631,368	
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
	Double Track Mined (Soft Soil)	km	\$96,247,282	0.000	\$0	0.000	\$0	
	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Crossovers Cut & Cover Double Track Tunnel	ea km	\$94,803,899 \$48,123,641	0.000	\$0 \$0	0.000 1.220	\$0	
	Trench Short	km	\$49,668,587	0.000	\$0 \$0	1.100	\$58,710,842 \$54,635,446	
15		km	\$39,272,836	0.000	\$0 \$0	0.000	\$34,033,440	
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.000	\$0 \$0	5.270	\$10,178,278	
	Retaining Walls	km	\$4,399,945	0.000	\$0	0.000	\$0	
18	Containment Walls	km	\$1,500,559	0.000	\$0	63.311	\$95,001,916	
	Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$0	0.000	\$0	
	le Separations	1		_		_		
	Street Overcrossing HSR - (Urban)	ea	\$17,167,417	0	\$0	2	\$34,334,834	
	Street Overcrossing HSR - (Suburban) Street Overcrossing HSR - (Undeveloped)	ea	\$6,485,469 \$1,093,628	6	\$38,912,811	0	\$0	
	Street Undercrossing HSR - (Undeveloped) Street Undercrossing HSR - (Urban)	ea ea	\$17,930,413	9	\$0 \$161,373,718	0 29	\$0 \$519,981,980	
5	Street Undercrossing HSR - (Suburban)	ea	\$6,866,967	0	\$101,373,718	7	\$48,068,767	
	Street Undercrossing HSR - (Judeveloped)	ea	\$1,157,211	0	\$0 \$0	0	\$48,008,787	
_	Street Bridging HSR Trench	ea	41/121/211	0	\$0	0	\$0	
	Minor crossing closures	ea	\$178,032	0	\$0	0	\$0	
9	Grade crossing	ea	\$250,000	68.00	\$17,000,000	47	\$11,750,000	
	ons, Including Parking							
	Terminal	LS	\$106,346,890	0.000	\$0	0.000	\$0	
	Site Development/Parking (Terminal Station)	LS	\$26,586,722	0.000	\$0	0.000	\$0	
_	Urban	LS	\$53,173,445	3.000	\$159,520,334	3.000	\$159,520,334	
4 5	Site Development/Parking (Urban Station) Suburban	LS LS	\$13,293,361 \$26,586,722	3.000 0.000	\$39,880,084 \$0	3.000 0.000	\$39,880,084 \$0	
	Site Development/Parking (Suburban Station)	LS	\$26,586,722 \$6,646,681	0.000	\$0 \$0	0.000	\$0 \$0	
7	Rural	LS	\$13,293,361	0.000	\$0 \$0	0.000	\$0	
	Site Development/Parking (Rural Station)	LS	\$2,658,672	0.000	\$0	0.000	\$0	
	Parking - Structure	space	\$15,886	0.000	\$0	0.000	\$0	
10	Parking - At Grade	space	\$2,277	0.000	\$0	0.000	\$0	
rd	s and Shops							
1		km	\$0	0.000	\$0	0.000	\$0	
2		km	\$0	0.000	\$0	0.000	\$0	
3		km	\$0	0.000	0 \$0	0.000	\$0	
4 il	and Utility Relocation	km	\$0	0.000	\$0	0.000	\$0	
	Single Track Relocation (Temporary)	km	\$1,271,661	0.000	\$0	0.000	\$0	
	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km	\$1,271,661	0.000	\$0 \$0	0.000	\$0	
	Single Track Removal	km	\$63,372	0.000	\$0 \$0	0.000	\$0 \$0	
	Major Utility Relocations - Dense Urban	km	\$890,162	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Urban	km	\$680,338	0.000	\$0	47.590	\$32,377,303	
6	Major Utility Relocations - Dense Suburban	km	\$476,873	0.000	\$0	0.000	\$0	
7	Major Utility Relocations - Suburban	km	\$273,407	0.000	\$0	16.269	\$4,448,059	
	Major Utility Relocations - Undeveloped	km	\$13,988	0.000	\$0	2.881	\$40,296	
	t of Way Items							
1	Right-of-Way Required for Each Segment		*****	2	\$0		\$0	
_	Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$100,074,160	
_	Urban Dense Suburban	Hectares	\$2,737,608 \$1,368,804	20.529 0.000	\$56,200,485	72.353 0.000	\$198,074,169 \$0	
		Hectares Hectares	\$1,368,804 \$479,081	0.000	\$0 \$0	24.710	\$11,838,100	
_	Suburban							

COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		OAKLAND T	O SAN JOSE		NOTES
		2006)	Alter	native 1	Alter	native 2	
Alignment Cost			Quantities Item Cost		Quantities Item Cost		
2 Right-of-Way Required for Passenger Station & Parking Facilities				\$0	0.000	\$0	
Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
Urban	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
Dense Suburban	Hectares	\$1,368,804	0.000	\$0	0.000	\$0	
Suburban	Hectares	\$479,081	0.000	\$0	0.000	\$0	
Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
Right-of-Way Required for Maintenance and Storage Facility				\$0		\$0	
Environmental Mitigation							
Environmental Mitigation (3% of Line Cost)			0.000	\$18,661,625	0.000	\$63,227,893	
System Elements							
2 Signaling (CTC with cab signals)(per track km)	km	\$115,625	0.000	\$0	158.834	\$18,365,198	
3 Signaling (CTC) single track	km	\$93,750	87.270	\$8,181,606	0.000	\$0	
4 Signaling (CTC) double track	km	\$178,125	87.270	\$15,545,052	0.000	\$0	
Electrification Items							
1 Traction Power Supply	km	\$432,365	0.000	\$0	63.311	\$27,373,433	
2 Traction Power Distribution	km	\$806,233	0.000	\$0	63.311	\$51,043,402	
Program Implementation Costs (PER SCREEN							
Program Implementation Costs (25.5% Total Constr. & Procure	ment Cost)			\$142,580,485		\$483,529,003	
Contingencies (PER SCREENING)							
Contingencies (25% of Total Construction Cost)			\$139,784,789		\$474,048,042		
Total Construction				\$559,139,155		\$1,896,192,168	
Total Construction and ROW (Incl. Envir. Mitg	tn)			\$640,715,778		\$2,170,824,325	
Grand Total				\$923,081,052		\$3,128,401,370	

COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-			O TO SAN JOSI		NOTES
		2006)	Altern	ative 1	Altern	ative 2	
Ilignment Cost			Quantities	Item Cost	Quantities	Item Cost	
1 Double Track Section - At-Grade 2 Double Track Section - On Structure	km km	\$993,167 \$1,878,243	62.100	\$61,675,662	62.100 1.000	\$61,675,662	
3 Double Track Section - In Tunnel or Subway	km	\$1,878,243	1.000 4.700	\$1,878,243 \$8,827,740	4.700	\$1,878,243 \$8,827,740	
4 Double Track Section - In Trench 5 Single Track Section - At Grade	km km	\$1,878,243 \$496,583	2.650 8.530	\$4,977,343 \$4,235,857	2.650 8.530	\$4,977,343 \$4,235,857	
6 Single Track Section - On Structure	km	\$939,121	0.000	\$0 \$16,528,535	0.000	\$0 \$16,528,535	
7 Single Track Sections - In Tunnel or Subway 8 Single Track Section - In Trench	km km	\$939,121 \$939,121	17.600 0.000	\$16,528,535 \$0	17.600 0.000	\$16,528,535 \$0	
9 Freight Double Track - At-Grade 10 Freight Single Track - At-Grade	km km	\$993,167 \$496,583	0.000	\$0 \$0		\$0 \$0	
11 Four-track construction or reconstruction	km	\$1,887,657	0.000	\$0		\$0	
arthwork Items 1 Site Preparation - Undeveloped	Hectares	\$12,081	0.000	\$0	0.000	\$0	
2 Total Cut 3 Total Fill	m3 m3	\$9 \$9	2,046,311.500	\$18,215,495	2,046,311.500	\$18,215,495 \$32,650,772	
4 Borrow	m3	\$13	3,667,957.000 0.000	\$32,650,772 \$0	3,667,957.000 0.000	\$0	
5 Spoil 4 Landscape/Erosion Control	m3 Hectares	\$0 \$8.075	0.000	\$0 \$0	0.000	\$0 \$0	
5 Security Fencing (Both Sides of R/W)	km	\$101,733	69.200	\$7,039,913	69.200	\$7,039,913	
6 Special Drain. Facilities (5% of Earthwork Cost) tructures, Tunnels, Walls		1		\$2,895,309		\$2,895,309	
1 Standard Structure 2 High Structure	km km	\$13,733,933 \$16,480,720	0.000 1.000	\$0 \$16,480,720	0.000 1.000	\$0 \$16,480,720	
3 Long Span Structure	km	\$37,577,568	0.000	\$0	0.000	\$0	
4 Waterway Crossing - Primary 5 Waterway Crossing - Secondary (Irrig./Canal Crossing)	km km	\$28,876,734 \$23,119,226	0.000	\$0 \$0	0.000	\$0 \$0	
6 Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.000	\$0	0.000	\$0	
7 Twin Single Track TBM (<6 Miles) 8 Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535 \$78,846,643	0.000	\$0 \$0	0.000	\$0 \$0	
Double Track Drill & Blast Double Track Mined (Soft Soil)	km	\$83,740,573 \$96,247,282	0.000 2.500	\$0 \$240,618,204	0.000 2.500	\$0 \$240,618,204	
11 Seismic Chamber (Drill & Blast/Mined)	km ea	\$94,803,899	0.000	\$0	0.000	\$0	
12 Crossovers 13 Cut & Cover Double Track Tunnel	ea km	\$94,803,899 \$48,123,641	0.000 4.700	\$0 \$226,181,112	0.000 4.700	\$0 \$226,181,112	
14 Trench Short	km	\$49,668,587	2.650	\$131,621,756	2.650	\$131,621,756	
15 Trench Long 16 Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.000 13.230	\$0 \$25,551,921	0.000 13.230	\$0 \$25,551,921	
17 Retaining Walls 18 Containment Walls	km km	\$4,399,945 \$1,500,559	25.200 78.980	\$110,878,623 \$118,514,181	25.200 78.980	\$110,878,623 \$118,514,181	
19 Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$110,514,101	0.000	\$110,514,161	
Grade Separations 1 Street Overcrossing RR - (Urban)	ea	\$17,167,417	3.000	\$51,502,250	3.000	\$51,502,250	
2 Street Overcrossing RR - (Suburban) 3 Street Overcrossing RR - (Undeveloped)	ea	\$6,485,469 \$1,093,628	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0	
4 Street Undercrossing RR - (Urban)	ea ea	\$17,930,413	43.000	\$771,007,764	43.000	\$771,007,764	
5 Street Undercrossing RR - (Suburban) 6 Street Undercrossing RR - (Undeveloped)	ea ea	\$6,866,967 \$1,157,211	0.000	\$0 \$0	0.000	\$0 \$0	
7 Minor crossing closures	ea	\$178,032	0.000	\$0	0.000	\$0	
Stations, Including Parking 1 4th & King	LS	\$657,756,875	1.000	\$657,756,875	1.000	\$657,756,875	
2 Transbay Transit Center (Underground) 3 San Jose Diridon Station	LS LS	\$653,041,875 \$153,697,500	1.000 1.000	\$653,041,875 \$153,697,500	1.000 1.000	\$653,041,875 \$153,697,500	
4 Millbrae/SFO Station	LS	\$24,150,000	1.000	\$24,150,000	1.000	\$24,150,000	
5 Palo Alto 6 Site Development/Parking (Suburban Station)	LS LS	\$56,076,875 \$6,646,681	1.000 0.000	\$56,076,875 \$0	1.000 0.000	\$56,076,875 \$0	
7 Rural	LS	\$13,293,361	0.000	\$0	0.000	\$0	
8 Site Development/Parking (Rural Station) 9 Parking - Structure	LS space	\$2,658,672 \$15,886	0.000	\$0 \$0	0.000	\$0 \$0	
10 Parking - At Grade Yards and Shops	space	\$2,277	0.000	\$0	0.000	\$0	
1	km	\$0	0.000	\$0		\$0	
3	km km	\$0 \$0	0.000	\$0 \$0		\$0 \$0	
4 lail and Utility Relocation	km	\$0	0.000	\$0	0.000	\$0	
1 Single Track Relocation (Temporary)	km	\$1,271,661	0.000	\$0	0.000	\$0	
2 Single Track Relocation (Permanent) 3 Single Track Removal	km km	\$1,271,661 \$63,372	0.000	\$0 \$0	0.000	\$0 \$0	
4 Major Utility Relocations - Dense Urban	km	\$890,162	0.000	\$0	0.000	\$0	
5 Major Utility Relocations - Urban 6 Major Utility Relocations - Dense Suburban	km km	\$680,338 \$476,873	0.000	\$0 \$0	0.000	\$0 \$0	
7 Major Utility Relocations - Suburban 8 Major Utility Relocations - Undeveloped	km km	\$273,407 \$13,988	0.000 8.530	\$0 \$119,320	0.000 8.530	\$0 \$119,320	
Right of Way Items	KIII	\$13,700	0.330		0.330		
1 Right-of-Way Required for Each Segment Dense Urban	Hectares	\$4,106,412	0.000	\$0 \$0	0.000	\$0 \$0	
Urban	Hectares	\$2,737,608	0.000	\$0	0.000	\$0	
Dense Suburban Suburban	Hectares Hectares	\$1,368,804 \$479,081	0.000	\$0 \$0	0.000	\$0 \$0	
Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
2 Right-of-Way Required for Passenger Station & Parking Facilities				\$581,629		\$581,629	
Dense Urban Urban	Hectares Hectares	\$4,106,412 \$2,737,608	0.000	\$0 \$0	0.000	\$0 \$0	
Dense Suburban Suburban	Hectares Hectares	\$1,368,804 \$479,081	0.000 1.214	\$0 \$581,629	0.000 1.214	\$0 \$581,629	
Undeveloped	Hectares	\$342,201	0.000	\$561,629 \$0	0.000	\$561,629	
3 Right-of-Way Required for Maintenance and Storage Facility				\$0		\$0	
nvironmental Mitigation Environmental Mitigation (3% of Line Cost)		1		\$101,901,164		\$101,901,164	
ystem Elements							
1 Signaling (ATC) 2 Signaling (CTC with cab signals)(per track km)	km km	\$845,654 \$115,625	0.000	\$0 \$0	0.000	\$0 \$0	
3 Signaling (CTC) single track	km	\$93,750	26.130	\$2,449,688	26.130	\$2,449,688	
4 Signaling (CTC) double track 5 Communications (w/Fiber Optic Backbone)	km km	\$178,125 \$699,413	70.450 0.000	\$12,548,906 \$0	70.450 0.000	\$12,548,906 \$0	
6 Wayside Protection System lectrification Items	km	\$67,144	0.000	\$0	0.000	\$0	
1 Traction Power Supply	km	\$432,365	0.000	\$0	0.000	\$0	
2 Traction Power Distribution Program Implementation Costs (Design, CM & Agency C	km ost)	\$806,233	0.000	\$0	0.000	\$0	
Program Implementation Costs (25.5% Total Constr. & Procurement Cost)	,			\$869,836,221		\$869,836,221	
Contingencies Contingencies (25% of Total Construction Cost)				\$852,780,609		\$852,780,609	
otal Construction otal Construction and ROW (Incl. Envir. Mitgtn)				\$3,411,122,436 \$3,513,605,229		\$3,411,122,436 \$3,513,605,229	
o.a. construction and ROW (mor. Envir. Wiltytii)				\$5,236,222,060		\$5,236,222,060	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		SAN JOSE	TO GILROY		NOTES
	SSS: ELLINEINS	ONT	2006)	Altern	native 1	Alter	native 2	110120
Alig	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
Trac	k Items			0.00		40.50		
1	Double Track Section - Total Double Track Section - At-Grade	km km	\$993,167	0.00	\$0	48.50 37.350	\$37,094,782	
	Double Track Section - On Structure	km	\$1,878,243	0.000	\$0	11.150	\$20,942,405	
	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0	
4	Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Single Track Section - Total	km	\$407 F00	33.634	¢1/ 701 012	0.000	\$0	
	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	33.634 0.000	\$16,701,912 \$0	0.000	\$0 \$0	
	Single Track Section - On Structure Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0 \$0	0.000	\$0 \$0	
	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade	km	\$993,167	0.000	\$0	0.000	\$0	
	Freight Single Track - At-Grade	km	\$496,583	0.000	\$0	0.000	\$0	
	Four-track construction or reconstruction	km	\$1,887,657	0.000	\$0	0.000	\$0	
	hwork Items Site Preparation - Undeveloped	Hostores	¢12.001	0.000	\$0	0.000	\$0	
	Total Cut	Hectares m3	\$12,081 \$9	0.000	\$0 \$0	283,860.000	\$2,526,815	
	Total Fill	m3	\$9	0.000	\$0	141,344.500	\$1,258,196	
4	Borrow	m3	\$13	0.000	\$0	0.000	\$0	
	Spoil	m3	\$0	0.000	\$0	0.000	\$0	
	Landscape/Erosion Control	Hectares	\$8,075	0.000	\$0	0.000	\$0	·
	Security Fencing (Both Sides of R/W)	km	\$101,733	0.000	\$0 \$0	37.450	\$3,809,895 \$379,745	
	Special Drain. Facilities (5% of Earthwork Cost) ctures, Tunnels, Walls	<u> </u>			\$0		\$3/9,/45	
	Standard Structure	km	\$13,733,933	0.117	\$1,611,571	7.050	\$96,824,231	
	High Structure	km	\$16,480,720	0.000	\$0	4.100	\$67,570,953	
3	Long Span Structure	km	\$37,577,568	0.000	\$0	0.000	\$0	
	Waterway Crossing - Primary	km	\$28,876,734	0.000	\$0	0.000	\$0	
	Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.041	\$944,217	0.000	\$0	
	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km	\$75,040,254 \$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
	Double Track Mined (Soft Soil)	km	\$96,247,282	0.000	\$0	0.000	\$0	
	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Crossovers	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
	Trench Short Trench Long	km km	\$49,668,587 \$39,272,836	0.000	\$0 \$0	0.000	\$0 \$0	
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.000	\$0	0.000	\$0 \$0	
	Retaining Walls	km	\$4,399,945	0.000	\$0	1.200	\$5,279,934	
18	Containment Walls	km	\$1,500,559	0.000	\$0	0.000	\$0	
	Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$0	0.000	\$0	
	le Separations	1	447.447.447		**		**	
	Street Overcrossing HSR - (Urban) Street Overcrossing HSR - (Suburban)	ea ea	\$17,167,417 \$6,485,469	0	\$0 \$0	0	\$0 \$0	
	Street Overcrossing HSR - (Suburbari) Street Overcrossing HSR - (Undeveloped)	ea	\$1,093,628	0	\$0 \$0	0	\$0 \$0	
	Street Undercrossing HSR - (Urban)	ea	\$17,930,413	2.000	\$35,860,826	3.000	\$53,791,239	
	Street Undercrossing HSR - (Suburban)	ea	\$6,866,967	0	, , , , , , , , , , , , , , , , , , , ,	20.000	\$137,339,335	
	Street Undercrossing HSR - (Undeveloped)	ea	\$1,157,211	0	\$0	0	\$0	
	Street Bridging HSR Trench	ea		0	\$0	0	\$0	
	Minor crossing closures	ea	\$178,032	7	\$1,246,227	0	\$0 \$0	
	Grade crossing ions, Including Parking	ea		27	\$0	0	\$0	
	Terminal	LS	\$106,346,890	0.000	\$0	0.000	\$0	
	Site Development/Parking (Terminal Station)	LS	\$26,586,722	0.000	\$0	0.000	\$0	
3	Urban	LS	\$53,173,445	0.000	\$0	0.000	\$0	
	Site Development/Parking (Urban Station)	LS	\$13,293,361	0.000	\$0	0.000	\$0	·
	Suburban Site Development/Parking (Suburban Station)	LS	\$26,586,722	6.000	\$159,520,334	6.000	\$159,520,334	
	Rural (Suburban Station)	LS LS	\$6,646,681 \$13,293,361	0.000	\$0 \$0	0.000	\$0 \$0	
	Site Development/Parking (Rural Station)	LS	\$13,293,361	0.000	\$0 \$0	0.000	\$0 \$0	
	Parking - Structure	space	\$15,886	0.000	\$0	0.000	\$0 \$0	
10	Parking - At Grade	space	\$2,277	0.000	\$0	0.000	\$0	
	ls and Shops							
1		km	\$0	0.000	\$0	0.000	\$0 \$0	
2 3		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
4		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
	and Utility Relocation	I MIII	\$ 0	0.000	ΨΟ	0.000	φυ	
	Single Track Relocation (Temporary)	km	\$1,271,661		\$0		\$0	
2	Single Track Relocation (Permanent)	km	\$1,271,661		\$0		\$0	
	Single Track Removal	km	\$63,372		\$0		\$0	
	Major Utility Relocations - Dense Urban	km	\$890,162		\$0	47.075	\$0 \$12,222,270	
	Major Utility Relocations - Urban Major Utility Relocations - Dense Suburban	km km	\$680,338 \$476,873		\$0 \$0	17.965	\$12,222,279 \$0	
	Major Utility Relocations - Dense Suburban Major Utility Relocations - Suburban	km km	\$476,873 \$273,407		\$0 \$0	13.425	\$0 \$3,670,489	
	Major Utility Relocations - Subdibari	km	\$13,988		\$0 \$0	17.110	\$239,339	
Righ	at of Way Items		1.27.00		+3	771110	1207,007	
	Right-of-Way Required for Each Segment							
<u> </u>	Dense Urban	Hectares	\$4,106,412		\$0		\$0	·
	Urban	Hectares	\$2,737,608		\$0	27.310	\$74,764,081	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		SAN JOSE	TO GILROY		NOTES
			2006)	Altern	native 1	Alter	native 2	
Alig	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
_	Dense Suburban	Hectares	\$1,368,804		\$0		\$0	
	Suburban	Hectares	\$479,081		\$0	20.410	\$9,778,050	
	Undeveloped	Hectares	\$342,201		\$0	26.010	\$8,900,647	
2	Right-of-Way Required for Passenger Station & Parking Facilities							
	Dense Urban	Hectares	\$4,106,412		\$0		\$0	
	Urban	Hectares	\$2,737,608	0	\$0		\$0	
	Dense Suburban	Hectares	\$1,368,804		\$0		\$0	
	Suburban	Hectares	\$479,081	2.43	\$1,163,760		\$0	
	Undeveloped	Hectares	\$342,201		\$0		\$0	
3	Right-of-Way Required for Maintenance and Storage Facility							
Env	ironmental Mitigation							
	vironmental Mitigation (3% of Line Cost)				\$6,890,794		\$20,380,961	
_	tem Elements				45/5:5/:::		+==	
	Signaling (CTC with cab signals)(per track km)	km	\$115,625	0.000	\$0	145.500	\$16,823,438	
	Signaling (CTC) single track	km	\$93,750	46.508	\$4,360,104	0.000	\$0	
	Signaling (CTC) double track	km	\$178,125	46.508	\$8,284,197	0.000	\$0	
Elec	trification Items							
1	Traction Power Supply	km	\$432,365	0.000	\$0	48.500	\$20,969,682	
	Traction Power Distribution	km	\$806,233	0.000	\$0	48.500	\$39,102,289	
	port Facility Costs							
	Facility cost breakdown	ea						
Pro	gram Implementation Costs (PER SCREENI	<u> </u>						
	ogram Implementation Costs (25.5% Total Constr. & Procureme	nt Cost)			\$58,274,994		\$173,238,171	
	tingencies (PER SCREENING)							
	ntingencies (25% of Total Construction Cost)	-		\$57,132,347		\$169,841,345		
	al Construction				\$228,529,389		\$679,365,378	
	al Construction and ROW (Incl. Envir. Mitgt	n)			\$236,583,944		\$793,189,118	
Gra	nd Total				\$351,991,285		\$1,136,268,634	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		GILROY T	O SALINAS		NOTES
	OGGI ELLIVERITO	ONT	2006)	Altern	ative 1	Altern	ative 2	110725
Aligr	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
Trac	k Items	•	1					
1	Double Track Section - Total Double Track Section - At-Grade	km km	\$993,167	0.00	\$0	0.00	\$0	
2	Double Track Section - On Structure	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0	
4	Double Track Section - In Trench Single Track Section - Total	km km	\$1,878,243	0.000 61.313	\$0	0.000 61.313	\$0	
5	Single Track Section - At Grade	km	\$496,583	61.313	\$30,447,027	61.313	\$30,447,027	
6	Single Track Section - On Structure	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Section - In Trench Freight Double Track - At-Grade	km km	\$939,121 \$993,167	0.000	\$0 \$0	0.000	\$0 \$0	
	Freight Single Track - At-Grade	km	\$496,583	0.000	\$0	0.000	\$0	
	Four-track construction or reconstruction	km	\$1,887,657	0.000	\$0	0.000	\$0	
	Nwork Items Site Preparation - Undeveloped	Heataraa	¢12.001	0.000	¢0	0.000	¢0	
	Total Cut	Hectares m3	\$12,081 \$9	0.000	\$0 \$0	0.000	\$0 \$0	
	Total Fill	m3	\$9	0.000	\$0	0.000	\$0	
	Borrow	m3	\$13	0.000	\$0	0.000	\$0	
	Spoil Landscape/Erosion Control	m3 Hectares	\$0 \$8,075	0.000	\$0 \$0	0.000	\$0 \$0	
	Security Fencing (Both Sides of R/W)	km	\$101,733	0.000	\$0 \$0	0.000	\$0	
6	Special Drain. Facilities (5% of Earthwork Cost)				\$0		\$0	
	ctures, Tunnels, Walls	1 6	640 700 5	0.453	¢2.454.550	0.457	#2.454.552	
	Standard Structure High Structure	km km	\$13,733,933 \$16,480,720	0.157 0.000	\$2,151,552 \$0	0.157 0.000	\$2,151,552 \$0	
	Long Span Structure	km	\$16,480,720	0.000	\$0 \$0	0.000	\$0 \$0	
4	Waterway Crossing - Primary	km	\$28,876,734	0.378	\$10,913,487	0.378	\$10,913,487	
	Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.048	\$1,106,284	0.048	\$1,106,284	
	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
	Double Track Mined (Soft Soil) Seismic Chamber (Drill & Blast/Mined)	km	\$96,247,282 \$94,803,899	0.000	\$0 \$0	0.000	\$0 \$0	
	Crossovers	ea ea	\$94,803,899	0.000	\$0	0.000	\$0 \$0	
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
	Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
15	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.000	\$0 \$0	0.000	\$0 \$0	
	Retaining Walls	km	\$4,399,945	0.000	\$0	0.000	\$0	
18	Containment Walls	km	\$1,500,559	0.000	\$0	0.000	\$0	
	Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$0	0.000	\$0	
	le Separations Street Overcrossing HSR - (Urban)	ea	\$17,167,417	0	\$0	0	\$0	
	Street Overcrossing HSR - (Suburban)	ea	\$6,485,469	1	\$6,485,469	1	\$6,485,469	
	Street Overcrossing HSR - (Undeveloped)	ea	\$1,093,628	0	\$0	0	\$0	
	Street Undercrossing HSR - (Urban)	ea	\$17,930,413	0	\$0	0	\$0	
	Street Undercrossing HSR - (Suburban) Street Undercrossing HSR - (Undeveloped)	ea ea	\$6,866,967 \$1,157,211	0	\$0	0	\$0	
	Street Bridging HSR Trench	ea	\$171077Z11	0	\$0	0	\$0	
	Minor crossing closures	ea	\$178,032	21.000	\$3,738,682	21.000	\$3,738,682	
	Grade crossing Jing Items	ea	\$250,000	3.000 0.000	\$750,000 \$0	3.000 0.000	\$750,000 \$0	
	Terminal	LS	\$111,906,124		\$0	0.000	\$0	
	Site Development/Parking (Terminal Station)	LS	\$27,976,531	0.000	\$0	0.000	\$0	
	Urban	LS	\$55,953,062	0.000	\$0	0.000	\$0	
	Site Development/Parking (Urban Station) Suburban	LS LS	\$13,988,266 \$27,976,531	2.000	\$55,953,062	2.000	\$55,953,062	
	Site Development/Parking (Suburban Station)	LS	\$6,994,133	0.000	\$55,955,062	0.000	\$35,955,062	
7	Rural	LS	\$13,988,266	0.000	\$0	0.000	\$0	
	Site Development/Parking (Rural Station) Parking - Structure	LS space	\$2,797,653 \$16,716	0.000	\$0 \$0	0.000	\$0 \$0	
	Parking - Structure Parking - At Grade	space	\$16,716	0.000	\$0	0.000	\$U	
Stati	ons, Including Parking							
	Terminal (Total All All All All All All All All All A	LS	\$106,346,890	0.000	\$0	0.000	\$0	
	Site Development/Parking (Terminal Station) Urban	LS LS	\$26,586,722 \$53,173,445	0.000	\$0 \$0	0.000	\$0 \$0	
	Site Development/Parking (Urban Station)	LS	\$13,293,361	0.000	\$0 \$0	0.000	\$0 \$0	
5	Suburban	LS	\$26,586,722	2.000	\$53,173,445	2.000	\$53,173,445	
	Site Development/Parking (Suburban Station)	LS	\$6,646,681	2.000	\$13,293,361	2.000	\$13,293,361	
	Rural Site Development/Parking (Rural Station)	LS LS	\$13,293,361 \$2,658,672	0.000	\$0 \$0	0.000	\$0 \$0	
	Parking - Structure	space	\$2,658,672 \$15,886	0.000	\$0 \$0	0.000	\$0 \$0	
10	Parking - At Grade	space	\$2,277					
	s and Shops	1		0.000	**	0.000	**	
1		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
3		km	\$0	0.000	\$0	0.000	\$0 \$0	
4		km	\$0	0.000	\$0	0.000	\$0	
	and Utility Relocation	lear	\$4.074.714		\$34,913		\$34,913	
	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661	0	\$0 \$0		\$0 \$0	
	Single Track Renoval	km	\$63,372	0			\$0 \$0	
4	Major Utility Relocations - Dense Urban	km	\$890,162	0	\$0		\$0	
	Major Utility Relocations - Urban	km	\$680,338		\$0		\$0	
	Major Utility Relocations - Dense Suburban Major Utility Relocations - Suburban	km km	\$476,873 \$273,407	0			\$0 \$0	
	Major Utility Relocations - Subdiban Major Utility Relocations - Undeveloped	km	\$13,988		\$0		\$0 \$0	
Righ	t of Way Items		1		\$0		\$0	
1	Right-of-Way Required for Each Segment	<u> </u>	ļ	<u> </u>		l		

	COST ELEMENTS UNIT		2006)				NOTES	
			2006)	Altern	ative 1	Altern	ative 2	
Alig	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
	Dense Urban	Hectares	\$4,106,412		\$0		\$0	
	Urban	Hectares	\$2,737,608		\$0		\$0	
	Dense Suburban	Hectares	\$1,368,804		\$0		\$0	
	Suburban	Hectares	\$479,081		\$0		\$0	
	Undeveloped	Hectares	\$342,201		\$0		\$0	
2	Right-of-Way Required for Passenger Station & Parking Facilities				\$1,163,760		\$1,163,760	
	Dense Urban	Hectares	\$4,106,412		\$0		\$0	
	Urban	Hectares	\$2,737,608		\$0		\$0	
	Dense Suburban	Hectares	\$1,368,804		\$0		\$0	
	Suburban	Hectares	\$479,081	2.43	\$1,163,760	2.43	\$1,163,760	
	Undeveloped	Hectares	\$342,201		\$0		\$0	
3	Right-of-Way Required for Maintenance and Storage Facility				\$0		\$0	
Env	ironmental Mitigation							
En	vironmental Mitigation (3% of Line Cost)							
	tem Elements							
	Signaling (CTC with cab signals)(per track km)	km	\$115,625					
	Signaling (CTC) single track	km	\$93,750					
	Signaling (CTC) double track	km	\$178,125	61.313	\$10,921,380.68	61.313	\$10,921,380.68	
	trification Items		•					
	Traction Power Supply	km	\$432,365					
	Traction Power Distribution	km	\$806,233					
	gram Implementation Costs (PER SCREENIN			* 40 700 FC7		# 40 700 FG7		
	ogram Implementation Costs (25.5% Total Constr. & Procurement		\$48,780,527		\$48,780,527			
	tingencies (PER SCREENING) ntingencies (25% of Total Construction Cost)		647.004.044		£47.004.044			
	al Construction		\$47,824,046 \$188,968,662		\$47,824,046 \$188,968,662			
	al Construction al Construction and ROW (Incl. Envir. Mitgtr			\$188,968,662		\$188,968,662		
	nd Total	'/			\$191,296,183		\$287,900,755	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-	SA	NTA CRUZ TO W	/ATSONVILLE .	JCT.	NOTES
			2006)	Alterr	native 1	Altern	ative 2	
Aligr	ment Cost			Quantities	Item Cost	Quantities	Item Cost	
Trac	k Items	1						
1	Double Track Section - Total Double Track Section - At-Grade	km km	\$993,167	0.00	\$0	0.00	\$0	
2	Double Track Section - On Structure	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0	
4	Double Track Section - In Trench Single Track Section - Total	km km	\$1,878,243	0.000 35.115	\$0	0.000 35.115	\$0	
5	Single Track Section - Total Single Track Section - At Grade	km	\$496,583	35.115	\$17,437,479	35.115	\$17,437,479	
	Single Track Section - On Structure	km	\$939,121	0.000	\$0	0.000	\$0	
7	· J	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Section - In Trench Freight Double Track - At-Grade	km km	\$939,121 \$993,167	0.000	\$0 \$0	0.000	\$0 \$0	
	Freight Single Track - At-Grade	km	\$496,583	0.000	\$0	0.000	\$0	
	Four-track construction or reconstruction	km	\$1,887,657	0.000	\$0	0.000	\$0	
	nwork Items Site Preparation - Undeveloped	Hectares	\$12,081	0.000	\$0	0.000	\$0	
	Total Cut	m3	\$12,081	0.000	\$0	0.000	\$0 \$0	
3	Total Fill	m3	\$9	0.000	\$0	0.000	\$0	
	Borrow	m3	\$13	0.000	\$0	0.000	\$0	
	Spoil Landscape/Erosion Control	m3 Hectares	\$0 \$8,075	0.000	\$0 \$0	0.000	\$0 \$0	
	Security Fencing (Both Sides of R/W)	km	\$101,733	0.000	\$0 \$0	0.000	\$0 \$0	
6	Special Drain. Facilities (5% of Earthwork Cost)				\$0		\$0	
	ctures, Tunnels, Walls	lona	610 700 000	0.400	\$0.470.700	0.400	\$0.472.700	
	Standard Structure High Structure	km km	\$13,733,933 \$16,480,720	0.690 0.177	\$9,472,689 \$2,913,385	0.690 0.177	\$9,472,689 \$2,913,385	
	Long Span Structure	km	\$37,577,568	0.000	\$0	0.000	\$0	
4	Waterway Crossing - Primary	km	\$28,876,734	0.656	\$18,940,181	0.656	\$18,940,181	
	Waterway Crossing - Secondary (Irrig./Canal Crossing) Twin Single Track Drill & Blast (<6 Miles)	km km	\$23,119,226 \$75,040,254	0.018	\$422,784 \$0	0.018 0.000	\$422,784 \$0	
	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.000	\$0 \$0	0.000	\$0 \$0	
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
10	Double Track Mined (Soft Soil) Seismic Chamber (Drill & Blast/Mined)	km ea	\$96,247,282 \$94,803,899	0.000	\$0 \$0	0.000	\$0 \$0	
12	Crossovers	ea	\$94,803,899	0.000	\$0	0.000	\$0	
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
14	Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
15 16	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.000	\$0 \$0	0.000	\$0 \$0	
	Retaining Walls	km	\$4,399,945	0.104	\$455,953	0.104	\$455,953	
	Containment Walls	km	\$1,500,559	0.000	\$0	0.000	\$0	
	Single Track Cut and Cover Subway e Separations	km	\$30,077,276	0.000	\$0	0.000	\$0	
	Street Overcrossing HSR - (Urban)	ea	\$17,167,417	0	\$0	0	\$0	
2	Street Overcrossing HSR - (Suburban)	ea	\$6,485,469	0	\$0	0	\$0	
	Street Overcrossing HSR - (Undeveloped)	ea	\$1,093,628	0	\$0	0	\$0	
	Street Undercrossing HSR - (Urban) Street Undercrossing HSR - (Suburban)	ea ea	\$17,930,413 \$6,866,967	0	\$0 \$0	0	\$0 \$0	
	Street Undercrossing HSR - (Undeveloped)	ea	\$1,157,211	0	\$0	0	\$0	
	Street Bridging HSR Trench	ea		0	\$0	0	\$0	
	Minor crossing closures	ea	\$178,032	8	\$1,424,260	8	\$1,424,260	
	Grade crossing ons, Including Parking	ea	\$250,000	36	\$9,000,000	36	\$9,000,000	
1	Terminal	LS	\$106,346,890	0.000	\$0	0.000	\$0	
	Site Development/Parking (Terminal Station)	LS	\$26,586,722	0.000	\$0	0.000	\$0	
	Urban Site Development/Parking (Urban Station)	LS LS	\$53,173,445 \$13,293,361	0.000	\$0 \$0	0.000	\$0 \$0	
	Suburban	LS	\$13,293,361	10.000	\$265,867,224	10.000	\$265,867,224	
6	Site Development/Parking (Suburban Station)	LS	\$6,646,681	10.000	\$66,466,806	10.000	\$66,466,806	
7	Rural	LS	\$13,293,361	0.000	\$0	0.000	\$0	
	Site Development/Parking (Rural Station) Parking - Structure	LS space	\$2,658,672 \$15,886	0.000	\$0 \$0	0.000	\$0 \$0	
	Parking - Structure Parking - At Grade	space	\$15,880	0.000	\$0 \$0	0.000	\$0 \$0	
Yard	s and Shops							
1		km	\$0	0.000	\$0 \$0	0.000	\$0	
3		km km	\$0 \$0	0.000	\$0 \$0	0.000	\$0 \$0	
4		km	\$0	0.000	\$0 \$0	0.000	\$0	
	and Utility Relocation							
	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km km	\$1,271,661 \$1,271,661		\$0 \$0		\$0 \$0	
	Single Track Renoval	km km	\$1,271,661		\$0 \$0	1	\$0 \$0	
4	Major Utility Relocations - Dense Urban	km	\$890,162		\$0		\$0	
	Major Utility Relocations - Urban	km	\$680,338		\$0		\$0	
	Major Utility Relocations - Dense Suburban Major Utility Relocations - Suburban	km km	\$476,873 \$273,407		\$0 \$0		\$0 \$0	
	Major Utility Relocations - Suburban Major Utility Relocations - Undeveloped	km	\$273,407		\$0 \$0		\$0	
Righ	t of Way Items	1						
1	Right-of-Way Required for Each Segment	Heate	\$4.407.44C		**		*^	
\vdash	Dense Urban Urban	Hectares Hectares	\$4,106,412 \$2,737,608		\$0 \$0		\$0 \$0	
	Dense Suburban	Hectares	\$1,368,804		\$0 \$0		\$0	
	Suburban	Hectares	\$479,081		\$0		\$0	
	Undeveloped	Hectares	\$342,201		\$0		\$0	
2	Right-of-Way Required for Passenger Station & Parking Facilities							
lacksquare	Dense Urban	Hectares	\$4,106,412		\$0		\$0	
—	Urban Dense Suburban	Hectares Hectares	\$2,737,608 \$1,368,804		\$0 \$0		\$0 \$0	
	Suburban	Hectares	\$479,081	8.097	\$3,879,201	8.097	\$3,879,201	
	Undeveloped	Hectares	\$342,201		\$0		\$0	

COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-	SAI	NTA CRUZ TO W	/ATSONVILLE	JCT.	NOTES
		2006)	Altern	ative 1	Altern	native 2	
Alignment Cost			Quantities	Item Cost	Quantities	Item Cost	
3 Right-of-Way Required for Maintenance and Storage Facility							
Environmental Mitigation	ı						
Environmental Mitigation (3% of Line Cost)				\$11,959,668		\$11,959,668	
System Elements							
2 Signaling (CTC with cab signals)(per track km)	km	\$115,625	0.000	\$0	0.000	\$0	
3 Signaling (CTC) single track	km	\$93,750	0.000	\$0	0.000	\$0	
4 Signaling (CTC) double track	km	\$178,125	35.115	\$6,254,842	35.115	\$6,254,842	
Electrification Items							
1 Traction Power Supply	km	\$432,365		\$0		\$0	
2 Traction Power Distribution	km	\$806,233		\$0		\$0	
Support Facility Costs							
1 Facility cost breakdown	ea						
Program Implementation Costs (PER SCREENIN							
Program Implementation Costs (25.5% Total Constr. & Procuremen	t Cost)			\$101,657,179		\$101,657,179	
Contingencies (PER SCREENING)							
Contingencies (25% of Total Construction Cost)				\$99,663,901		\$99,663,901	
Total Construction				\$398,655,603		\$398,655,603	
Total Construction and ROW (Incl. Envir. Mitgtn)			\$414,494,472		\$414,494,472	
Grand Total				\$615,815,551		\$615,815,551	

COST ELEMENTS UNIT VINIT PRI					CASTROVILLE	TO MONTEREY		NOTES
	555	0.1.1	(YR NOV-2006)	Alterr	native 1	Altern	ative 2	
Alig	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
Trac	k Items							
	Double Track Section - Total	km	4000 4/7	0.00	40	0.00	40	
	Double Track Section - At-Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	0.000	\$0 \$0	0.000	\$0 \$0	
	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0 \$0	
	Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0	
_	Single Track Section - Total	km	#40/ F00	21.682	¢10 7/7 107	21.682	610 7/7 107	
	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	21.682 0.000	\$10,767,127 \$0	21.682 0.000	\$10,767,127 \$0	
	Single Track Section - On Structure Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade	km	\$993,167	0.000	\$0	0.000	\$0	
	Freight Single Track - At-Grade Four-track construction or reconstruction	km km	\$496,583 \$1,887,657	0.000	\$0 \$0	0.000	\$0 \$0	
	hwork Items	KIII	Ψ1,007,037	0.000	40	0.000	ΨΟ	
	Site Preparation - Undeveloped	Hectares	\$12,081	0.000	\$0	0.000	\$0	
	Total Cut	m3	\$9	0.000	\$0	0.000	\$0	
	Total Fill Borrow	m3 m3	\$9 \$13	0.000	\$0 \$0	0.000	\$0 \$0	
	Spoil	m3	\$0	0.000	\$0	0.000	\$0	
	Landscape/Erosion Control	Hectares	\$8,075	0.000	\$0	0.000	\$0	
	Security Fencing (Both Sides of R/W)	km	\$101,733	0.000	\$0 \$0	0.000	\$0 \$0	
	Special Drain. Facilities (5% of Earthwork Cost) ctures, Tunnels, Walls		ı		\$0		⊅ U	
1	Standard Structure	km	\$13,733,933	0.133	\$1,820,866	0.133	\$1,820,866	
	High Structure	km	\$16,480,720	0.000	\$0	0.000	\$0	
	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.000 0.218	\$0 \$6,292,857	0.000 0.218	\$0 \$6,292,857	
	Waterway Crossing - Primary Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$28,876,734	0.059	\$1,374,047	0.218	\$1,374,047	
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.000	\$0	0.000	\$0	
	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.000	\$0	0.000	\$0	
	Twin Single Track TBM w/3rd Tube (>6 Miles) Double Track Drill & Blast	km km	\$78,846,643 \$83,740,573	0.000	\$0 \$0	0.000	\$0 \$0	
	Double Track Mined (Soft Soil)	km	\$96,247,282	0.000	\$0	0.000	\$0	
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Crossovers	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Cut & Cover Double Track Tunnel Trench Short	km km	\$48,123,641 \$49,668,587	0.000	\$0 \$0	0.000	\$0 \$0	
	Trench Long	km	\$39,272,836	0.000	\$0	0.000	\$0 \$0	
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.000	\$0	0.000	\$0	
	Retaining Walls	km	\$4,399,945	0.000	\$0 \$0	0.000	\$0 \$0	
	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.000	\$0 \$0	0.000	\$0 \$0	
	le Separations	IGH	\$00,077,270	0.000	\$ 0	0.000	# 0	
	Street Overcrossing HSR - (Urban)	ea	\$17,167,417	0	\$0	0	\$0	
	Street Overcrossing HSR - (Suburban) Street Overcrossing HSR - (Undeveloped)	ea ea	\$6,485,469 \$1,093,628	0	\$0 \$0	0	\$0 \$0	
	Street Undercrossing HSR - (Urban)	ea	\$17,930,413	0	\$0 \$0	0	\$0 \$0	
5	Street Undercrossing HSR - (Suburban)	ea	\$6,866,967	0	\$0	0	\$0	
	Street Undercrossing HSR - (Undeveloped)	ea	\$1,157,211	0	\$0	0	\$0	
	Street Bridging HSR Trench Minor crossing closures	ea ea	\$178,032	0 2	\$0 \$356,065	0 2	\$0 \$356.065	
	Grade crossing	ea	\$250,000	20	\$5,000,000	20	\$5,000,000	
	ions, Including Parking							
	Terminal Site Development (Perking (Terminal Station)	LS	\$106,346,890	0.000	\$0 \$0	0.000	\$0 \$0	
	Site Development/Parking (Terminal Station) Urban	LS	\$26,586,722 \$53,173,445	0.000	\$0 \$0	0.000	\$0 \$0	
4	Site Development/Parking (Urban Station)	LS	\$13,293,361	0.000	\$0	0.000	\$0	
	Suburban	LS	\$26,586,722	4.000	\$106,346,890	4.000	\$106,346,890	
	Site Development/Parking (Suburban Station) Rural	LS LS	\$6,646,681 \$13,293,361	4.000 0.000	\$26,586,722 \$0	4.000 0.000	\$26,586,722 \$0	
	Site Development/Parking (Rural Station)	LS	\$13,293,361	0.000	\$0 \$0	0.000	\$0 \$0	
9	Parking - Structure	space	\$15,886	0.000	\$0	0.000	\$0	
	Parking - At Grade	space	\$2,277	0.000	\$0	0.000	\$0	
Yard 1	ls and Shops	km	\$0	0.000	\$0	0.000	\$0	
2		km	\$0	0.000	\$0 \$0	0.000	\$0	
3		km	\$0	0.000	\$0	0.000	\$0	
4		km	\$0	0.000	\$0	0.000	\$0	
	and Utility Relocation Single Track Relocation (Temporary)	km	\$1,271,661		\$0		\$0	
	Single Track Relocation (Temporary) Single Track Relocation (Permanent)	km	\$1,271,661		\$0 \$0		\$0 \$0	
3	Single Track Removal	km	\$63,372		\$0		\$0	
	Major Utility Relocations - Dense Urban	km	\$890,162		\$0 \$0		\$0 \$0	,
	Major Utility Relocations - Urban Major Utility Relocations - Dense Suburban	km km	\$680,338 \$476,873		\$0 \$0		\$0 \$0	
	Major Utility Relocations - Suburban	km	\$273,407		\$0		\$0	
8	Major Utility Relocations - Undeveloped	km	\$13,988		\$0		\$0	
	Right-of-Way Required for Each Segment							
\vdash	Right-of-Way Required for Each Segment Dense Urban	Hectares	\$4,106,412		\$0		\$0	
	Urban	Hectares	\$2,737,608		\$0 \$0		\$0 \$0	
	Dense Suburban	Hectares	\$1,368,804		\$0		\$0	-
<u> </u>	Suburban Undeveloped	Hectares Hectares	\$479,081 \$342,201		\$0 \$0		\$0 \$0	
2	Right-of-Way Required for Passenger Station & Parking	ricuates	\$34Z,ZUT		\$ U		ΦU	
<u> </u>	Facilities	11. 1	44		**		10	
1	Dense Urban Urban	Hectares Hectares	\$4,106,412 \$2,737,608	}	\$0 \$0		\$0 \$0	
	Dense Suburban	Hectares	\$1,368,804		\$0		\$0	
	Suburban	Hectares	\$479,081	3.24	\$1,551,680	3.24	\$1,551,680	

COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-2006)		CASTROVILLE T	TO MONTEREY	,	NOTES
			Altern	ative 1	Altern	ative 2	
Alignment Cost			Quantities	Item Cost	Quantities	Item Cost	
Undeveloped	Hectares	\$342,201		\$0		\$0	
Right-of-Way Required for Maintenance and Storage Facility							
Environmental Mitigation							
Environmental Mitigation (3% of Line Cost)				\$6,419,811		\$6,419,811	
System Elements							
2 Signaling (CTC with cab signals) (per track km)	km	\$115,625	0.000	\$0	0.000	\$0	
3 Signaling (CTC) single track	km	\$93,750	0.000	\$0	0.000	\$0	
4 Signaling (CTC) double track	km	\$178,125	20.920	\$3,726,455	20.920	\$3,726,455	
Electrification Items							
1 Traction Power Supply	km	\$432,365		\$0		\$0	
2 Traction Power Distribution	km	\$806,233		\$0		\$0	
Support Facility Costs							
1 Facility cost breakdown	ea						
Program Implementation Costs (PER SCREENING							
Program Implementation Costs (25.5% Total Constr. & Procurement	ent Cost)			\$41,379,113		\$41,379,113	
Contingencies (PER SCREENING)							
Contingencies (25% of Total Construction Cost)		\$40,567,758		\$40,567,758			
Total Construction		\$162,271,030 \$170,242,522		\$162,271,030 \$170,242,522			
	otal Construction and ROW (Incl. Envir. Mitgtn)						
Grand Total				\$252,189,392		\$252,189,392	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		GILROY TO	HOLLISTER		NOTES
			2006)	Altern	ative 1	Altern	ative 2	
ligr	nment Cost			Quantities	Item Cost	Quantities	Item Cost	
rac	k Items			0.00		10.01		
1	Double Track Section - Total Double Track Section - At-Grade	km km	\$993,167	0.00	\$0	19.31 19.311	\$19,179,229	
	Double Track Section - On Structure	km	\$1,878,243	0.000	\$0	0.000	\$0	
	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.000	\$0	0.000	\$0	
4	Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0	
г	Single Track Section - Total	km	¢404 E02	19.311	¢0 E00 E33	19.311	¢0 E00 41E	
	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	19.311 0.000	\$9,589,523 \$0	19.311 0.000	\$9,589,615 \$0	
7	Single Track Section - On Structure Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	0.000	\$0	
8	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade	km	\$993,167	0.000	\$0	0.000	\$0	
	Freight Single Track - At-Grade	km	\$496,583	0.000	\$0 \$0	0.000	\$0 \$0	
	Four-track construction or reconstruction hwork Items	km	\$1,887,657	0.000	\$0	0.000	\$0	
	Site Preparation - Undeveloped	Hectares	\$12,081	0.000	\$0	0.000	\$0	
	Total Cut	m3	\$9	0.000	\$0	0.000	\$0	
	Total Fill	m3	\$9	0.000	\$0	0.000	\$0	·
	Borrow	m3	\$13	0.000	\$0 \$0	0.000	\$0 \$0	
	Spoil Landscape/Erosion Control	m3 Hectares	\$0 \$8,075	0.000	\$0 \$0	0.000	\$0 \$0	
	Security Fencing (Both Sides of R/W)	km	\$101,733	0.000	\$0 \$0	0.000	\$0 \$0	
6	Special Drain. Facilities (5% of Earthwork Cost)		\$.51 ₁ 755	2.000	\$0	2.000	\$0	
tru	ctures, Tunnels, Walls							
	Standard Structure	km	\$13,733,933	0.047	\$640,442	0.140	\$1,921,327	
	High Structure	km	\$16,480,720	0.000	\$0	0.000	\$0 \$0	
	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.000	\$0 \$0	0.000	\$0 \$0	
5	Waterway Crossing - Primary Waterway Crossing - Secondary (Irrig./Canal Crossing)	km km	\$28,876,734 \$23,119,226	0.000	\$0 \$2,431,007	0.000	\$7,293,020	
	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.000	\$2,431,007	0.000	\$7,273,020	
	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.000	\$0	0.000	\$0	
	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	0.000	\$0	
	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
	Double Track Mined (Soft Soil) Seismic Chamber (Drill & Blast/Mined)	km	\$96,247,282 \$94,803,899	0.000	\$0 \$0	0.000	\$0 \$0	
	Crossovers & Blast/Mined)	ea ea	\$94,803,899	0.000	\$0 \$0	0.000	\$0 \$0	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0 \$0	
	Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
15	Trench Long	km	\$39,272,836	0.000	\$0	0.000	\$0	
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.000	\$0	0.000	\$0	
	Retaining Walls	km	\$4,399,945	0.000	\$0	0.000	\$0	
	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.000	\$0 \$0	0.000	\$0 \$0	
	le Separations	NIII	\$30,077,270	0.000	\$ 0	0.000	\$0	
	Street Overcrossing HSR - (Urban)	ea	\$17,167,417	0	\$0	0	\$0	
	Street Overcrossing HSR - (Suburban)	ea	\$6,485,469	0	\$0	0	\$0	
	Street Overcrossing HSR - (Undeveloped)	ea	\$1,093,628	0	\$0	4	\$4,374,512	
	Street Undercrossing HSR - (Urban) Street Undercrossing HSR - (Suburban)	ea	\$17,930,413	0	\$0	0 5	\$0 \$34,334,834	
	Street Undercrossing HSR - (Suburbarr) Street Undercrossing HSR - (Undeveloped)	ea ea	\$6,866,967 \$1,157,211	0	\$0	0	\$34,334,634 \$0	
	Street Bridging HSR Trench	ea	ψ1,107,211	0	\$0	0	\$0	
8	Minor crossing closures	ea	\$178,032	12	\$2,136,390	12	\$2,136,390	
	Grade crossing	ea	\$250,000	12	\$3,000,000	0	\$0	
	ions, Including Parking	1.0	¢10/ 04/ 00-	0.000	4.0	0.000	40	
	Terminal Site Development/Parking (Terminal Station)	LS LS	\$106,346,890 \$26,586,722	0.000	\$0 \$0	0.000	\$0 \$0	
	Urban	LS	\$53,173,445	0.000	\$0 \$0	0.000	\$0 \$0	
	Site Development/Parking (Urban Station)	LS	\$13,293,361	0.000	\$0	0.000	\$0	
5	Suburban	LS	\$26,586,722	1.000	\$26,586,722	1.000	\$26,586,722	
	Site Development/Parking (Suburban Station)	LS	\$6,646,681	1.000	\$6,646,681	1.000	\$6,646,681	
	Rural	LS	\$13,293,361	0.000	\$0	0.000	\$0 \$0	
	Site Development/Parking (Rural Station) Parking - Structure	LS space	\$2,658,672 \$15,886	0.000	\$0 \$0	0.000	\$0 \$0	
	Parking - Structure Parking - At Grade	space	\$15,886	0.000	\$0 \$0	0.000	\$0 \$0	
	ls and Shops	Space	ΨΕ,ΕΙΙ	0.000	45	0.000	40	
1		km	\$0	0.000	\$0	0.000	\$0	
2		km	\$0	0.000	\$0	0.000	\$0	
3	 	km km	\$0	0.000	\$0 \$0	0.000	\$0 \$0	
4 ail	and Utility Relocation	km	\$0	0.000	\$0	0.000	\$0	
	Single Track Relocation (Temporary)	km	\$1,271,661		\$0		\$0	
2	Single Track Relocation (Permanent)	km	\$1,271,661		\$0		\$0	
3	Single Track Removal	km	\$63,372	19.311	\$1,223,786	19.311	\$1,223,786	
	Major Utility Relocations - Dense Urban	km	\$890,162		\$0		\$0	
	Major Utility Relocations - Urban	km	\$680,338		\$0	0.000	\$0	
	Major Utility Relocations - Dense Suburban	km km	\$476,873		\$0 \$0	0.000	\$0 \$0	
	Major Utility Relocations - Suburban Major Utility Relocations - Undeveloped	km km	\$273,407 \$13,988		\$0 \$0	0.000	\$0 \$0	
	it of Way Items	NIII	ψ13,700		Ψ0	0.000	Ψ0	
	Right-of-Way Required for Each Segment							
	Dense Urban	Hectares	\$4,106,412		\$0	0.000	\$0	
	Urban	Hectares	\$2,737,608		\$0	0.000	\$0	
	Dense Suburban	Hectares	\$1,368,804		\$0	-	\$0	
	Suburban	Hectares	\$479,081	,	\$0	1.534	\$734,697	

COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-		GILROY TO	HOLLISTER		NOTES
		2006)	Altern	ative 1	Alterr	native 2	
Alignment Cost			Quantities	Item Cost	Quantities	Item Cost	
Right-of-Way Required for Passenger Station &							
Parking Facilities							
Dense Urban	Hectares	\$4,106,412		\$0		\$0	
Urban	Hectares	\$2,737,608		\$0		\$0	
Dense Suburban	Hectares	\$1,368,804		\$0	4.04	\$0	
Suburban	Hectares	\$479,081	1.21	\$581,880	1.21	\$581,880	
Undeveloped	Hectares	\$342,201		\$0		\$0	
Right-of-Way Required for Maintenance and Storage Facility							
Environmental Mitigation							
Environmental Mitigation (3% of Line Cost)				\$1,688,287		\$4,651,708	
System Elements							
1 Signaling (CTC with cab signals)(per track km)	km	\$115,625	0.000	\$0	38.622	\$4,465,669	
2 Signaling (CTC) single track	km	\$93,750	0.000	\$0	0.000	\$0	
3 Signaling (CTC) double track	km	\$178,125	19.311	\$3,439,805	0.000	\$0	
Electrification Items							
1 Traction Power Supply	km	\$432,365		\$0	19.311	\$8,349,392	
2 Traction Power Distribution	km	\$806,233		\$0	19.311	\$15,569,161	
Support Facility Costs							
1 Facility cost breakdown	ea						
Program Implementation Costs (PER SCREENING							
Program Implementation Costs (25.5% Total Constr. & Procurer	nent Cost)	·		\$14,780,953		\$40,725,705	
Contingencies (PER SCREENING)							
Contingencies (25% of Total Construction Cost)				\$14,491,131		\$39,927,162	
Total Construction				\$55,694,356		\$141,670,338	
Total Construction and ROW (Incl. Envir. Mitgtn)				\$57,964,523		\$159,708,649	
Grand Total				\$87,236,607		\$240,361,517	

	COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-	Transba	ay - San Franc	cisco to West (Dakland	NOTES
			2006)	Altern	ative 1	Altern	ative 2	
lignn	nent Cost		•	Quantities	Item Cost	Quantities	Item Cost	
	Items							
	Single Track Section - At Grade	km	\$496,583	0.000	\$0	0.000	\$0	
	Single Track Section - On Structure	km	\$939,121	0.000	\$0	0.000	\$0	
	Single Track Sections - In Tunnel or Subway	km	\$939,121	0.000	\$0	25.950	\$24,370,197	
	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0	
	Freight Double Track - At-Grade	km	\$993,167	0.000	\$0	0.000	\$0	
	Freight Single Track - At-Grade	km	\$496,583	0.000	\$0 \$0	0.000	\$0 \$0	
	Four-track construction or reconstruction	km	\$1,887,657	0.000	\$0	0.000	\$0	
	vork Items	Linatanaa	¢12.001	0.000	\$0	0.000	\$0	
2	Site Preparation - Undeveloped Total Cut	Hectares m3	\$12,081 \$9	0.000	\$0	0.000	\$0	
	Total Fill	m3	\$9	0.000	\$0	0.000	\$0	
	Borrow	m3	\$13	0.000	\$0	0.000	\$0	
				0.000	\$0	0.000	\$0	
	Spoil	m3	\$0 \$8,075	0.000	\$0	0.000	\$0	
	Landscape/Erosion Control	Hectares			\$0 \$0		\$0 \$0	
	Security Fencing (Both Sides of R/W)	km	\$101,733	0.000		0.000		
	Special Drain. Facilities (5% of Earthwork Cost)				\$0		\$0	
	ures, Tunnels, Walls	1	640 700 05	0.000		0.000	**	
	Standard Structure	km	\$13,733,933	0.000	\$0	0.000	\$0	
	High Structure	km	\$16,480,720	0.000	\$0	0.000	\$0	
	Long Span Structure	km	\$37,577,568	0.000	\$0	0.000	\$0	
	Waterway Crossing - Primary	km	\$28,876,734	0.000	\$0	0.000	\$0	
	Waterway Crossing - Secondary (Irrig./Canal Crossing)	km	\$23,119,226	0.000	\$0	0.000	\$0	
	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.000	\$0	0.000	\$0	
	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.000	\$0	0.000	\$0	
	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0	12.975	\$1,023,035,195	
	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0	0.000	\$0	
	Double Track Mined (Soft Soil)	km	\$96,247,282	0.000	\$0	0.000	\$0	
	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Crossovers	ea	\$94,803,899	0.000	\$0	0.000	\$0	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
	Trench Short	km	\$49,668,587	0.000	\$0	0.000	\$0	
	Trench Long	km	\$39,272,836	0.000	\$0	0.800	\$31,418,269	
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.000	\$0	12.975	\$25,059,423	
	Retaining Walls	km	\$4,399,945	0.000	\$0	0.000	\$0	
	Containment Walls	km	\$1,500,559	0.000	\$0	0.000	\$0	
	Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$0	0.000	\$0	
	Separations	1	1					
	Street Overcrossing RR - (Urban)	ea	\$17,167,417	0.000	\$0	0.000	\$0	
	Street Overcrossing RR - (Suburban)	ea	\$6,485,469	0.000	\$0	0.000	\$0	
	Street Overcrossing RR - (Undeveloped)	ea	\$1,093,628	0.000	\$0	0.000	\$0	
	Street Undercrossing RR - (Urban)	ea	\$17,930,413	0.000	\$0	0.000	\$0	
	Street Undercrossing RR - (Suburban)	ea	\$6,866,967	0.000	\$0	0.000	\$0	
	Street Undercrossing RR - (Undeveloped)	ea	\$1,157,211	0.000	\$0	0.000	\$0	
	Minor crossing closures	ea	\$178,032	0.000	\$0	0.000	\$0	
	ns, Including Parking	1						
	Terminal	LS	\$106,346,890	0.000	\$0	1.000	\$106,346,890	
	Site Development/Parking (Terminal Station)	LS	\$26,586,722	0.000	\$0	1.000	\$26,586,722	
	Urban	LS	\$53,173,445	0.000	\$0	0.000	\$0	
	Site Development/Parking (Urban Station)	LS	\$13,293,361	0.000	\$0	0.000	\$0	
	Suburban	LS	\$26,586,722	0.000	\$0	0.000	\$0	
	Site Development/Parking (Suburban Station)	LS	\$6,646,681	0.000	\$0	0.000	\$0	
7	Rural	LS	\$13,293,361	0.000	\$0	0.000	\$0	
	Site Development/Parking (Rural Station)	LS	\$2,658,672	0.000	\$0	0.000	\$0	
	Parking - Structure	space	\$15,886	0.000	\$0	1,500.000	\$23,828,748	
	Parking - At Grade	space	\$2,277	0.000	\$0	500.000	\$1,138,685	
	and Shops	1 .	4	0			A75 005 555	
	Yard and Shop	ls	\$75,000,000	0.000	\$0	1.000	\$75,000,000	
2		km	\$0	0.000	\$0	0.000	\$0	
3		km	\$0	0.000	\$0	0.000	\$0	
4		km	\$0	0.000	\$0	0.000	\$0	
	nd Utility Relocation		ı					
	Single Track Relocation (Temporary)	km	\$1,271,661	0.000	\$0	0.000	\$0	
	Single Track Relocation (Permanent)	km	\$1,271,661	0.000	\$0	0.000	\$0	
	Single Track Removal	km	\$63,372	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Dense Urban	km	\$890,162	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Urban	km	\$680,338	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Dense Suburban	km	\$476,873	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Suburban	km	\$273,407	0.000	\$0	0.000	\$0	
	Major Utility Relocations - Undeveloped	km	\$13,988	0.000	\$0	0.000	\$0	
	of Way Items							
1	Right-of-Way Required for Each Segment				\$0		\$16,425,649	
	Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	<u> </u>
	Urban	Hectares	\$2,737,608	0.000	\$0	6.000	\$16,425,649	
	Dense Suburban	Hectares	\$1,368,804	0.000	\$0	0.000	\$0	
	Suburban	Hectares	\$479,081	0.000	\$0	0.000	\$0	
	Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
2	Right-of-Way Required for Passenger Station & Parking				70			
	Facilities	<u> </u>			\$0		\$8,212,825	
	Dense Urban	Hectares	\$4,106,412	0.000	\$0	0.000	\$0	
			¢2.727.700	0.000	\$0	3.000	\$8,212,825	
	Urban	Hectares	\$2,737,608					
	Urban Dense Suburban	Hectares Hectares	\$2,737,608	0.000	\$0	0.000	\$0	

COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-	Transba	ay - San Franc	isco to West (Dakland	NOTES
		2006)	Altern	ative 1	Altern	ative 2	
Alignment Cost	•		Quantities	Item Cost	Quantities	Item Cost	
Undeveloped	Hectares	\$342,201	0.000	\$0	0.000	\$0	
Right-of-Way Required for Maintenance and Storage Facility				\$0		\$0	
Environmental Mitigation							
Environmental Mitigation (3% of Line Cost)				\$0		\$40,842,678	
System Elements							
1 Signaling (ATC)	km	\$845,654	0.000	\$0	0.000	\$0	
2 Signaling (CTC with cab signals) (per track km)	km	\$115,625	0.000	\$0	27.550	\$3,185,469	
3 Signaling (CTC) single track	km	\$93,750	0.000	\$0	0.000	\$0	
4 Signaling (CTC) double track	km	\$178,125	0.000	\$0	0.000	\$0	
5 Communications (w/Fiber Optic Backbone)	km	\$699,413	0.000	\$0	13.775	\$9,634,418	
6 Wayside Protection System	km	\$67,144	0.000	\$0	0.800	\$53,715	
Electrification Items							
1 Traction Power Supply	km	\$432,365	0.000	\$0	13.775	\$5,955,822	
2 Traction Power Distribution	km	\$806,233	0.000	\$0	13.775	\$11,105,856	
Program Implementation Costs (Design, CM & A	Agency Cos	st)					
Program Implementation Costs (25.5% Total Constr. & Procuren	ent Cost)			\$0		\$348,513,450	
Contingencies							
Contingencies (25% of Total Construction Cost)				\$0		\$341,679,852	
Total Construction				\$0		\$1,366,719,410	
Total Construction and ROW (Incl. Envir. Mitgti	1)			\$0		\$1,432,200,562	
Grand Total				\$0		\$2,122,393,864	

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BAY AREA REGIONAL RAIL PLAN

BART OPTIONS OAKLAND AND SAN FRANCISCO ORDER OF MAGNITUDE ESTIMATE

FOR

REGIONAL RAIL PROJECT MANAGEMENT TEAM

PREPARED BY

EARTH TECH 2101 WEBSTER STREET, OAKLAND, CALIFORNIA

(REV A)
DECEMBER 5, 2006



BART OPTIONS- OAKLAND TO SAN FRANCISCO

DECEMBER 5, 2006 (REV A)

INTRODUCTION

As part of the overall Bay Area Regional Rail Plan Study, this estimate is limited to the evaluation of the following three BART Options only:

- BART Option 1: Oakland to San Francisco Presidio
- BART Option 2: Oakland to San Francisco 33rd Avenue
- BART Option F: Oakland Fourth Bore Tunnel (Broadway Street)

PURPOSE

The purpose of this study is to develop an order of magnitude cost estimate for BART expansion options from Oakland to San Francisco as part of the overall Bay Area Regional Rail Plan.

SUMMARY OF OPTIONS

The summary below is based on the preliminary information available at this time:

T OPTIONS	COST
ART Option 1: Oakland to San Francisco Presidio	\$ 9.71 Billion
ART Option 2: Oakland to San Francisco 33 rd Avenue	\$10.17 Billion
ART Option F: Oakland Fourth Bore Tunnel (Broadway Street)	\$ 0.31 Billion
/	ART Option 1: Oakland to San Francisco Presidio ART Option 2: Oakland to San Francisco 33 rd Avenue

Scope of the Estimate

The scope of work is as follows:

BART Option 1: Oakland to San Francisco (Presidio)

- West Oakland to Alameda (6,850 Route Meters) twin bored tunnel (BART), includes two (2) underground stations and one parking structure with 2000 parking spaces.
- Alameda to SF Bay Crossing (4,650 Route Meters) 4 tracks Transbay Tube (BART & HSR) **
- Station 4th & Townsend, San Francisco (1,146 Route Meters) (BART & HSR) **
- 4th & Townsend to San Francisco Presidio (7,400 Route Meters) twin bore tunnel (BART), includes six (6) underground stations and one parking structure with 2000 parking spaces.
- Allowance for Maintenance Facility Expansion
- · Easements and Right-of Way Allowances
- ** Trackwork and systems for HSR not included. HSR Ventilation Included

BART Option 2: Oakland to San Francisco (33rd Avenue)

 West Oakland to Alameda (6,850 Route Meters) twin bored tunnel (BART), includes two (2) underground stations and one parking structure with 2000 parking spaces.

BART Options (Rev A)

BART OPTIONS- OAKLAND TO SAN FRANCISCO

DECEMBER 5, 2006 (REV A)

- Alameda to SF Bay Crossing 4 tracks Transbay Tube 3,670 Route Meters (HSR & BART), 2 tracks Transbay Tube 1,580 Route Meters (BART), 2 tracks Transbay Tube 1,310 Route Meters (HSR) **
- 4th & Townsend HSR Station (720 Route Meters) **
- Fremont Street to 33rd Avenue (7,000 Route Meters) twin bore tunnel (BART), includes nine (9) underground stations
- ** Trackwork and systems for HSR not included. HSR Ventilation Included

BART Option F: Oakland Fourth Bore Tunnel (Broadway Street)

- MacArthur Station to Oakland East Portal (840 Route Meters) At Grade including miscellaneous modifications
- Oakland East Portal to Oakland West Portal 1,000 Route Meter mined tunnel under existing BART tracks, 200 Route Meter of retained cut and 50 Route Meters of Aerial Structure and modifications to existing BART Stations at 12th and 19th Street

DOCUMENTS & INFORMATION USED

The following documents were prepared by Earth Tech, Inc and used to develop quantities for this estimate study:

- Bay Area Bay Crossing West Oakland Existing BART Additions / Modifications Dated: 10-30-06
- Bay Area Bay Crossing Oakland to San Francisco. Options 1 Dated: 06-22-06
- Bay Area Bay Crossing Oakland to San Francisco. Options 2 Dated: 07-01-06

PRICING

All pricing is based on 4th quarter 2006 dollars.

The transbay crossing cost per route meter is based on historical cost data from BART's website which has been escalated to 2006 dollars and factored for current seismic and environmental standards. All other pricing is based on recent regional BART projects and have been modified for this estimate study.

The unit costs used for this estimate study are as follows:

Typical Tunneling & Bay Crossing Costs

- Twin Bore Tunnel \$70,000 / Route Meter
- 2- Twin Bore Tunnels (4 Bores) \$140,000 / Route Meter
- Mining Under Existing Tracks \$60,000 / Route Meter (Oakland East to West Portal)



BART OPTIONS- OAKLAND TO SAN FRANCISCO

DECEMBER 5, 2006 (REV A)

- Twin Track Transbay Tube \$240,000 / Route Meter
- Four Track Transbay Tube \$400,000 / Route Meter

Station Costs

- Stations Modification Allowance for Existing 12th St & 19th St Stations \$25 Million Each
- Typical New Underground BART Station \$90 Million
- New Underground HSR Station, 4th & Townsend \$230 Million
- New Underground BART / HSR Station, 4th & Townsend \$400 Million
- Parking Structure \$25,000/ Parking Stall

Typical Trackwork and System Cost

- Double Track, Direct Fixation \$2,000 / Route Meter
- Special Track Work \$1,000 / Route Meter
- Traction Power System \$3,500 / Route Meter
- Train Control System \$2,000 / Route Meter
- Communications Systems- \$5,000 / Route Meter
- Tunnel Ventilation System (1 Tunnel) \$1,650 / Route Meter
- Tunnel Ventilation System (2 Tunnel) \$2,200 / Route Meter
- Tunnel Ventilation System (4 Tunnel) \$4,400 / Route Meter

Other BART Cost

- Maintenance Facilities Expansion Allowance \$100 Million
- Right-of-Way and Easements Allowances are included as follows:
 - o Tunnel Segments \$40 Million per Option 1 and Option 2
 - o Typical BART Stations \$10 Million per station
 - o BART / HSR Station, 4th / Townsend \$25 Million (Option 1)
 - o HSR Station, 4th / Townsend \$25 Million (Option 2)

SPECIAL CONDITIONS

BART Special Conditions included at 15% of the construction cost and cover the following costs:

- Modifications to BART Core Systems
 - Central Control Building & Miscellaneous Expansions
 - o Administration Buildings
 - Existing Stations Modifications to signage, vertical circulation, fare collection and miscellaneous
- Parking Expansions for Existing Stations
- Environment Issues (Noise, Visual, Vibration, HAZMAT, etc.)
- Utility Modifications

ENGINEERING AND MANAGEMENT COSTS

Engineering and Management are included at 30% of the construction and special condition costs.



BART OPTIONS- OAKLAND TO SAN FRANCISCO

DECEMBER 5, 2006 (REV A)

CONTINGENCY

Contingency is included at 35% of the construction, special conditions, engineering, and management costs.

ESCALATION

Escalation for future years is excluded at this time.

EXCLUSIONS

The following items are specifically excluded from the estimate:

- Escalation to the Year of Expenditure
- New Parking Structures for HSR and BART Stations.
- Operation and Maintenance Costs
- HSR Trackwork and Systems Costs
- New BART Vehicle Costs
- Project Reserve

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BART OPTIONS (ALL)	USI I NI LISO				ת ת	PAGE 1
(Dec 3, 4	(M ABU) 000
	DESCRIPTION	COST/UC	SPECIAL COND	ENGR'G & CM	CONTINGENCY	TOTAL
	25.A - BART Option 1 - Oakland to San Francisco (Presidio)	Francisco (Pre	sidio)			
25.A.1	West Oakland to Alameda BART	817,045,000	122,556,750	281,880,525	427,518,796	1,649,001,071
25.A.2	Alameda to SF - Bay Crossing BART & HSR	1,943,235,000	291,485,250	670,416,075	1,016,797,713	3,921,934,038
25.A.3	4th & Townsend BART & HSR Station (San Francisco) BART & HSR	580,953,400	87,143,010	200,428,923	303,983,866	1,172,509,199
25.A.4	4th & Townsend to Presidio (San Francisco) BART	1,224,180,000	183,627,000	422,342,100	640,552,185	2,470,701,285
25.A.5	Other BART Costs Maintenance Facility, ROW , & Easements	245,000,000	36,750,000	84,525,000	128,196,250	494,471,250
25.A - BART Option 1 - Oakland to San Francisco (Presidio)	n Francisco (Presidio) 25.B - BART Option 2 - Oakland to San Francisco (33rd Ave)	4,810,413,400 Francisco (33rd	562,010	1,659,592,623	2,517,048,811	9,708,616,844
9 ags: 1.1.2 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	West Oakland to Alameda BART	817,045,000	, 122,556,750	281,880,525	427,518,796	1,649,001,071
9 5.B.2	Alameda to SF - Bay Crossing BART & HSR	2,254,981,000	338,247,150	777,968,445	1,179,918,808	4,551,115,403
25.B.3	4th & Townsend HSR Station (San Francisco) HSR	281,984,000	42,297,600	97,284,480	147,548,128	569,114,208
25.B.4	Fremont St to 33rd Ave (San Francisco) BART	1,409,900,000	211,485,000	486,415,500	737,730,175	2,845,530,675
25.B.5	Other BART Costs Maintenance Facility, ROW , & Easements	275,000,000	41,250,000	94,875,000	143,893,750	555,018,750
25.B - BART Option 2 - Oakland to San Francisco (33rd Ave)	n Francisco (33rd Ave)	5,038,910,000	755,836,500	1,738,423,950	2,636,609,657	10,169,780,107
	25.F - BART Option F - Fourth Tunnel Bore (Oakland)	el Bore (Oaklan	Î			
25.F.1	MacArthur Station to Oakland East Portal BART	10,001,000	1,500,150	3,450,345	5,233,023	20,184,518
25.F.2	Oakland East Portal to Oakland West Portai BART Through 19th & 12th Street Stations	141,343,750	21,201,562	48,763,593	73,958,117	285,267,023
25.F - BART Option F - Fourth Tunnel Bore (Oakland)	Bore (Oakland)	151,344,750	22,701,712	52,213,938	79,191,140	305,451,541

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7,063.87 50,456.25 13,825,012 2,018.25 27,650,025 4,036.50 10,091.25 30,415,027 4,440.15 TOTAL 967,750,875 141,277,50 181,642,500 181,642,500.00 181,642,500 181,642,500.00 100,912,500 27,650,025 4,036.50 48,387,543 69,125,062 1,649,001,071 Dec 5, 2006 (Rev A) 1,151.15 1,831.37 0.00 523.25 1,046.50 427,518,796 1,046.50 12,544,918 17,921,312 2,616.25 250,898,375 13,081.25 7,168,525 3,584,262 7,168,525 7,885,377 47,092,500.00 47,092,500 47,092,500.00 26,162,500 CONTINGENCY 36,627.50 47,092,500 8,271,375 1,207.50 5,199,150 759.00 281,880,525 690.00 690.00 345.00 ENGR'G & CM 165,427,500 8,625.00 4,726,500 2,363,250 11,816,250 1,725.00 24,150.00 31,050,000 31,050,000.00 31,050,000 31,050,000.00 17,250,000 4,726,500 25.A - BART Option 1 - Oakland to San Francisco (Presidio) SPECIAL COND 2,260,500 122,556,750 0.00 750.00 525.00 3,750.00 300.00 71,925,000 3,500,000.00 13,500,000.00 7,500,000 300.00 1,027,500 150.00 3,596,250 2,055,000 5,137,500 10,500.00 13,500,000 13,500,000 2,055,000 15,070,000 2,200.00 817,045,000 0.00 COST IN USD COST / UC 3,500.00 2,000.00 5,000.00 90,000,000,00 23,975,000 13,700,000 34,250,000 479,500,000 25,000.00 13,700,000 6,850,000 70,000.00 90,000,000,00 90,000,00 50,000,000 2,000.00 1,000.00 90,000.00 Below Ground Station - BART (Alameda Webster St) Below Ground Station - BART (Alameda Point) Alameda Point Station Parking Structure Tunnel Ventilation System - 2 Tunnels Twin Bored Tunnel, Typical Double Track, Direct Fix Special Trackwork Communications DESCRIPTION Traction Power Train Control 2000 spaces Work Element 6,850.000 RM Work Element Work Element Work Element Work Element Work Element Work Element QUANTITY UNIT 5,850.000 RM 5,850.000 RM 3,850.000 RM 6,850.000 RM 5,850.000 RM 3,850.000 RM 1.000 Ea 1.000 Ea Direct Entry 2,000.000 ea Override Override TYPE 25.A.1 - West Oakland to Alameda **ELEMENT ID** 25.A.1 - West Oakland to 3411216 3411217 3422128 3411215 3412110 3422120 3422122 3422124 3412120 3411120 REPORT BART 25.A.1 25.A.1 25.A.1 Fage 70 25.A.1 25.A.1 25.A.1 25.A.1 25.A.1 25.A.1 WBS

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WBS	ELEMENT ID	TYPE QUANTITY UNIT	DESCRIPTION	OOST//UC	SPECIAL COND	ENGRIGECM	CONTINGENCY	TOTAL
			25.À - BART Option 1 - (Option 1 - Oakland to San Francisco (Presidio)	ancisco (Presidio			
25.A.2 - Alam BART & HSR	25.A.2 - Alameda to SF - Bay Crossing BART & HSR	Crossing						
25.A.2	3411140	Work Element 4,650.000 RM	4 Track Transbay Tube, (BART & HSR)	1,860,000,000	279,000,000 60,000.00	641,700,000 138,000.00	973,245,000 209,300.00	3,753,945,000 807,300.00
25.A.2	3412110	Work Element	Double Track, Direct Fix BART					
		4,650.000 RM		9,300,000 2,000.00	1,395,000	3,208,500 690.00	4,866,225 1,046.50	18,769,725 4,036.50
25.A.2	3412120	Work Element	Special Trackwork BART					
		4,650.000 RM		4,650,000 1,000.00	697,500 150.00	1,604,250 345.00	2,433,112 523,25	9,384,862 2,018.25
25.A.2	3422120	Work Element	Traction Power BART					
age 7		4,650.000 RM		16,275,000 3,500.00	2,441,250 525.00	5,614,875 1,207.50	8,515,893 1,831.37	32,847,018 7,063.87
25.A.2	3422122	Work Element	Train Control BART					
		4,650.000 RM		9,300,000 2,000.00	1,395,000 300.00	3,208,500 690.00	4,866,225 1,046.50	18,769,725 4,036.50
25.A.2	3422124	Work Element	Communications BART					
		4,650.000 RM		23,250,000 5,000.00	3,487,500 750.00	8,021,250 1,725.00	12,165,562 2,616.25	46,924,312 10,091.25
25.A.2	3422130	Work Element	Tunnel Ventilation System - 4 Tunnels BART & HSR					
		4,650.000 RM		20,460,000 4,400.00	3,069,000 660.00	7,058,700 1,518.00	10,705,695 2,302.30	41,293,395 8,880.30
25.A.2 - Ala	25.A.2 - Alameda to SF - Bay			1,943,235,000	291,485,250 0.00	670,416,075	1,016,797,713 0.00	3,921,934,038
25.A.3 - 4th 8 BART & HSR	οX	RT & HSR Sta	Townsend BART & HSR Station (San Francisco)					
25.A.3	3411122	Work Element	2 -Twin Bored Tunnel, Typical (4 Bores) BART & HSR					
		1,146.000 RM		160,440,000 140,000.00	24,066,000 21,000.00	55,351,800 48,300.00	83,950,230 73,255.00	323,808,030 282,555.00
25.A.3	3411214	Override 1.000 Ea	Below Ground Station - BART & HSR (4th / Townsend) 400,0	Townsend) 400,000,000 400,000,000.00	60,000,000 60,000,000	138,000,000 138,000,000.00	209,300,000 209,300,000.00	807,300,000 807,300,000.0

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Dec 5, 2006 (Rev A) COST IN USD DESCRIPTION TYPE **ELEMENT ID** REPORT BART

2,312,914 2,018.25 8,095,200 181,642,500 181,642,500.00 181,642,500.00 181,642,500.00 4,036.50 7,063.87 1,172,509,199 1,045,453,500 181,642,500 181,642,500 4,036.50 11,564,572 10,091.25 10,176,823 8,880.30 0.0 141,277.50 4,625,829 TOTAL 4,625,829 2,302.30 1,199,289 2,616.25 303,983,866 47,092,500.00 47,092,500.00 599,644 523.25 1,046.50 271,043,500 47,092,500 47,092,500.00 47,092,500 47,092,500 2,638,435 0.00 36,627.50 2,098,755 1,199,289 2,998,222 CONTINGENCY 1,831.37 31,050,000 31,050,000.00 790,740 1,725.00 1,518.00 0.00 790,740 690.00 395,370 345.00 1,207.50 31,050,000.00 200,428,923 178,710,000 24,150.00 31,050,000 31,050,000 31,050,000.00 ENGR'G & CM 1,383,795 1,976,850 1,739,628 25.A - BART Option 1 - Oakland to San Francisco (Presidio) 756,360 13,500,000.00 343,800 300.00 750.00 990,000 0.00 77,700,000 13,500,000.00 SPECIAL COND 300,00 171,900 150.00 601,650 525.00 87,143,010 10,500.00 13,500,000 13,500,000.00 13,500,000 13,500,000 343,800 859,500 518,000,000 70,000.00 90,000,000,00 90,000,000,00 5,042,400 4,400.00 COST / UC 2,292,000 2,000.00 1,146,000 1,000.00 4,011,000 5,000.00 90,000,000 2,000.00 580,953,400 0.00 90,000,000 90,000,000,00 90,000,000,06 5,730,000 3,500.00 2,292,000 Below Ground Station - BART (Harrison St) Below Ground Station - BART (Market St) Below Ground Station - BART (Geary St) Tunnei Ventilation System - 4 Tunnels Twin Bored Tunnel, Typical 25.A.3 - 4th & Townsend BART & HSR Station (San Francisco) Double Track, Direct Fix Special Trackwork Communications **Traction Power BART & HSR** Frain Control 25.A.4 - 4th & Townsend to Presidio (San Francisco) BART BART BART BART BART Work Element 7,400.000 RM Work Element Work Element Work Element Work Element Work Element Work Element QUANTITY UNIT 1,146.000 RM 1,146.000 RM 1.000 Ea 1,146.000 RM 1,146.000 RM 1,146.000 RM 1,146.000 RM 1.000 Ea 1.000 Ea Override Override Override 25.A.3 - 4th & Townsend BART 3411210 3411212 3422130 3411211 3412110 3422122 3422124 3412120 3422120 BART & HSR BART ર્ફ Peage 72 25.A.4 25.A.4 25.A.3 25.A.3 25.A.3 25.A.3 25.A.4 25.A.4 WBS

UNIT COST DETAIL REPORT

SF BAY AREA REGIONAL RAIL PLAN

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PAGE 4 Dec 5, 2006 (Rev A) TOTAL COST IN USD REPORT BART1

WBS	ELEMENT ID	TYPE QUANTITY UNIT	DESCRIPTION	cost/uc	SPECIAL COND	ENGR'G & CM	CONTINGENCY	TOTAL
			25.A - BART Option 1 - O	Option 1 - Oakland to San Francisco (Presidio)	ncisco (Presidio)			
25.A.4 BART	25.A.4 - 4th & Townsend to Presidio (San Francisco) BART	o Presidio (San F.	rancisco)					
25.A.4	3411213	Override 1.000 Ea	Below Ground Station - BART (Washington St)	90,000,000	13,500,000 13,500,000.00	31,050,000 31,050,000.00	47,092,500 47,092,500.00	181,642,500 181,642,500.00
25.A.4	3411220	Direct Entry 1.000 Ea	Below Ground Station - BART (Filmore St)	90,000,000	13,500,000 13,500,000.00	31,050,000	47,092,500 47,092,500.00	181,642,500 181,642,500.00
25.A.4	3411222	Direct Entry 1.000 Ea	Below Ground Station - BART (Presidio)	90,000,000,08	13,500,000 13,500,000.00	31,050,000 31,050,000.00	47,092,500 47,092,500.00	181,642,500 181,642,500.00
25.A.4	3411223	Direct Entry	Presidio Station Parking Structure 2000 spaces					
Pa		2,000.000 Ea		50,000,000 25,000.00	7,500,000 3,750.00	17,250,000 8,625.00	26,162,500 13,081.25	100,912,500 50,456.25
∳. Y. Y. Y. Y. Y. Y. Y. Y. Y. Y. Y. Y. Y.	3412110	Work Element 7,400.000 RM	Double Track, Direct Fix	14,800,000 2,000.00	2,220,000 300.00	5,106,000	7,744,100	29,870,100 4,036.50
25.A.4	3412120	Work Element 7,400.000 RM	Special Trackwork	7,400,000 1,000.00	1,110,000	2,553,000 345.00	3,872,050 523.25	14,935,050 2,018.25
25.A.4	3422120	Work Element 7,400.000 RM	Traction Power	25,900,600 3,500.00	3,885,000 525.00	8,935,500 1,207.50	13,552,175 1,831.37	52,272,675 7,063.87
25.A.4	3422122	Work Element 7,400.000 RM	Train Control	14,800,000 2,000.00	2,220,000	5,106,000	7,744,100	29,870,100 4,036.50
25.A.4	3422124	Work Element 7,400.000 RM	Communications	37,000,000 5,000.00	5,550,000 750.00	12,765,900 1,725.00	19,360,250 2,616.25	74,675,250 10,091.25
25.A.4	3422128	Work Element 7,400.000 RM	Tunnel Ventilation System - 2 Tunnels	16,280,000 2,200.00	2,442,000 330.00	5,616,600 759.00	8,518,510 1,151.15	32,857,110 4,440.15
25.A.4 - 4	25.A.4 - 4th & Townsend to			1,224,180,000 0.00	183,627,000 0.00	422,342,100 0.00	640,552,185 0.00	2,470,701,285

UNIT COST DETAIL REPORT SF BAY AREA REGIONAL RAIL PLAN

EARTH TECH	ТЕСН		SF BAY AREA REGIONAL RAIL PLAN	AIL PLAN	Į.L.	PRISM-BART1-12/05/2006-16:27:15	/2006-16:27:15 PAGE 5
REPOR	REPORT BART1		COST IN USD			} ⊃eC	Dec 5, 2006 (Rev A)
WBS	ELEMENTID	TYPE QUANTITY UNIT	DESCRIPTION COST / UC	SPECIAL COND	ENGR'G & CM	CONTINGENCY	TOTAL
			25.A - BART Option 1 - Oakland to San Francisco (Presidio)	Francisco (Presidio)			
25.A.5 Mainten	25.A.5 - Other BART Costs Maintenance Facility, ROW, & Easements	ements					
25.A.5	3412301	Override 1.000 LS	Allowance for Maintenance Facility Expansion 100,000,000,000	15,000,000 15,000,000.00	34,500,000 34,500,000.00	52,325,000 52,325,000.00	201,825,000
25.A.5	3412310	Override 1.000 LS	Allowance for Easements / ROW for Tunnel Segments 40,000,000 40,000,000.00	6,000,000 00,000,000	13,800,000	20,930,000 20,930,000.00	80,730,000 80,730,000.00
25.A.5	3412312	Override 8.000 LS	Allowance for Easements / ROW for Typical BART Stations 80,000,000	12,000,000	27,600,000 3,450,000.00	41,860,000 5,232,500,00	161,460,000 20,182,500.00
25.A.5	3412315	Override 1.000 LS	Allowance for Easements / ROW for HSR & BART Station 4th & Townsend 25,000,000	3.750.000	8.625.000	13.081.250	50.456.250
Pa			25,000,000.00	3,750,000.00	8,625,000.00	13,081,250.00	50,456,250.00
₽0 S Y S Y 2 Ge 74	95.A.5 - Other BART Costs		245,000,090 00,0	36.750.000	84,525,000 0.00	128,196,250	494,471,250
REPORT TOTALS	TOTALS		4,810,413,400	721,562,010	1,659,592,623	2,517,048,811	9,708,616,844

UNIT COST DETAIL REPORT

PRISM-BART2-12/05/2006-16:29:18 TOTAL PAGE 1 Dec 5, 2006 (Rev A) SF BAY AREA REGIONAL RAIL PLAN COST IN USD BART OPTION 2 - OAKLAND TO SF (33rd AVE) **EARTH TECH**

			25.B - BART Option 2 - Oakland to San Francisco (33rd Ave)	akland to San Fra	ıncisco (33rd Ave)			
25.B.1 - \ BART	25.B.1 - West Oakland to Alameda BART	ameda						
25.B.1	3411120	Work Element	Twin Bored Tunnel, Typical					
		6,850.000 RM		479,500,000	71,925,000	165,427,500 24 150 00	250,898,375 36 627 50	967,750,875
25.B.1	3411215	Override	Below Ground Station - BART (Alameda Webster St)	ster St)				2
		1.000 Ea		000'000'06	13,500,000	31,050,000	47,092,500	181,642,500
25.B.1	3411216	Override	Below Ground Station - BART (Alameda Point)				00001001	20:00:14:01
		1.000 Ea		90,000,000	13,500,000	31,050,000	47,092,500	181,642,500
				90,000,000,00	13,500,000.00	31,050,000.00	47,092,500.00	181,642,500.00
25.B.1	3411217	Direct Entry	Alameda Point Station Parking Structure					
			2000 spaces	;				
F		2,000.000 ea		50,000,000	7,500,000	17,250,000	26,162,500	100,912,500
ام				25,000.00	3,750.00	8,625.00	13,081.25	50,456.25
3 5.B.1	3412110	Work Element	Double Track, Direct Fix					
75		6,850.000 RM		13,700,000	2,055,000	4,726,500	7,168,525	27,650,025
				2,000.00	300.00	00.069	1,046.50	4,036.50
25.B.1	3412120	Work Element	Special Trackwork					
		6,850.000 RM		6,850,000	1,027,500	2,363,250	3,584,262	13,825,012
				1,000.00	150.00	345.00	523.25	2,018.25
25.B.1	3422120	Work Element	Traction Power					
		6,850.000 RM		23,975,000	3,596,250	8,271,375	12,544,918	48,387,543
				3,500.00	525.00	1,207.50	1,831.37	7,063.87
25.8.1	3422122	Work Element	Train Control					
	-	6,850.000 RM		13,700,000	2,055,000	4,726,500	7,168,525	27,650,025
				2,000.00	300.00	00'069	1,046.50	4,036.50
25.8.1	3422124	Work Element	Communications					
		6,850.000 RM		34,250,000	5,137,500	11,816,250	17,921,312	69,125,062
				5,000.00	750.00	1,725.00	2,616.25	10,091.25
25.8.1	3422128	Work Element	Tunnel Ventilation System - 2 Tunnels					
		6,850.000 RM		15,070,000	2,260,500	5,199,150	7,885,377	30,415,027
				2,200.00	330,00	759.00	1,151.15	4,440.15
25.B.1 - Wes	25.B.1 - West Oakland to			817,045,000	122,556,750	281,880,525	427,518,796	1,649,001,071
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PAGE 2 Dec 5, 2006 (Rev A) COST IN USD BART OPTION 2 - DAKLAND TO SE (33rd AVE)

BART C	BART OPTION 2 - OAKLAND TO SF (33rd AVE)	JD TO SF (33rd	AVE)	COST IN USD			Dec 5	Dec 5, 2006 (Rev A)
WBS	ELEMENT ID	TYPE QUANTITY UNIT	DESCRIPTION	20/1802	SPECIAL COND	ENGR'G & CM	CONTINGENCY	TOTAL
			25.B - BART Option 2 - Oakland to San Francisco (33rd Ave)	Oakland to San Fra	incisco (33rd Av	(e)		
25.B.2 - Alam BART & HSR	25.B.2 - Alameda to SF - Bay Crossing BART & HSR	ay Crossing						
25.B.2	3411140	Work Element 3,670.000 RM	4 Track Transbay Tube, (BART & HSR)	1,468,000,000	220,200,000	506,460,000	768,131,000 209,300.00	2,962,791,000 807,300.00
25.B.2	3411141	Work Element 1,580.000 RM	2 Track Transbay Tube, (BART)	379,200,000 240,000.00	56,880,000 36,000.00	130,824,000 82,800.00	198,416,400 125,580.00	765,320,400 484,380.00
25.B.2	3411142	Work Element 1,310.000 RM	2 Track Transbay Tube, (HSR)	314,400,000 240,000.00	47,160,000	108,468,000 82,800.00	164,509,800 125,580.00	634,537,800 484,380.00
25.B.2	3412110	Work Element	Double Track, Direct Fix					
Pa		5,250.000 RM		10,500,000 2,000.00	1,575,000 300.00	3,622,500 690.00	5,494,125 1,046.50	21,191,625 4,036.50
7.8.5 19.6 70	3412120	Work Element	Special Trackwork BART					
6		5,250.000 RM		5,250,000 1,000.00	787,500 150.00	1,811,250 345.00	2,747,062 523.25	10,595,812 2,018.25
25.B.2	3422120	Work Element	Traction Power					
		5,250.000 RM		18,375,000 3,500.00	2,756,250 525.00	6,339,375 1,207.50	9,614,718 1,831.37	37,085,343 7,063.87
25.B.2	3422122	Work Element	Train Control BABT					
		5,250.000 RM		10,500,000 2,000.00	1,575,000 300.00	3,622,500 690.00	5,494,125 1,046.50	21,191,625 4,036.50
25.8.2	3422124	Work Element	Communications BART					
		5,250.000 RM		26,250,000 5,000.00	3,937,500 750.00	9,056,250 1,725.00	13,735,312 2,616.25	52,979,062 10,091.25
25.B.2	3422128	Work Element	Tunnel Ventilation System - 2 Tunnels BART & HSR					
		2,890.000 RM		6,358,000 2,200.00	953,700 330.00	2,193,510 759.00	3,326,823 1,151.15	12,832,033 4,440.15
25.B.2	3422130	Work Element	Tunnel Ventilation System - 4 Tunnels BART & HSR					
		3,670.000 RM		16,148,000 4,400.00	2,422,200 660.00	5,571,060 1,518.00	8,449,441 2,302.30	32,590,701 8,880.30
25.B.2 - Al	25.B.2 - Alameda to SF - Bay			2,254,981,000 .000	338,247,150 0.00	777,968,445	1,179,918,808	4,551,115,403 0.00

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PRISM-BART2-12/05/2006-16:29:18 TOTAL Dec 5, 2006 (Rev A) COST IN USD DESCRIPTION BART OPTION 2 - OAKLAND TO SF (33rd AVE)

569,114,208 0.00 181,642,500.00 181,642,500.00 181,642,500.00 101,719,800 141,277.50 988,942,500 141,277.50 181,642,500 181,642,500.00 181,642,500 181,642,500 181,642,500 464,197,500 464,197,500.00 3,196,908 4,440.15 1,151.15 47,092,500.00 47,092,500.00 256,392,500 47,092,500.00 47,092,500.00 47,092,500 47,092,500 36,627.50 828,828 147,548,128 36,627.50 47,092,500 47,092,500 CONTINGENCY 26,371,800 120,347,500 20,347,500.00 97,284,480 0.00 31,050,000 31,050,000.00 759.00 31,050,000.00 169,050,000 24,150.00 31,050,000.00 31,050,000 17,388,000 24,150.00 79,350,000 79,350,000.00 546,480 31,050,000 31,050,000.00 31,050,000 ENGR'G & CM 25.B - BART Option 2 - Oakland to San Francisco (33rd Ave) 13,500,000 13,500,000.00 42,297,600 73,500,000 330.00 SPECIAL COND 3,500,000.00 13,500,000 13,500,000.00 13,500,000 10,500.00 237,600 13,500,000 3,500,000.00 13,500,000 7,560,000 34,500,000.00 34,500,000 1,584,000 2,200.00 281,984,000 90,000,000,00 90,000,000,00 490,000,000 70,000.00 90,000,000,00 90,000,00 90,000,000 COST / UC 50,400,000 70,000.00 90,000,000 90,000,000,00 000'000'06 230,000,000 230,000,000.00 Below Ground Station - BART (Fremont Street) Below Ground Station - HSR (4th & Townsend) Below Ground Station - BART (Fillmore St) 3elow Ground Station - BART (4th Street) 3elow Ground Station - BART (City Hall) Below Ground Station - BART (Masonic) Tunnel Ventitation System - 2 Tunnels Twin Bored Tunnel, Typical Twin Bored Tunnel, Typical 25.B.3 - 4th & Townsend HSR Station (San Francisco) HSH. HSR 25.B.4 - Fremont St to 33rd Ave (San Francisco) Work Element Work Element Work Element QUANTITY UNIT ,000.000 RM 720.000 RM 720.000 RM 1.000 Ea 1.000 Ea 1.000 Ea 1.000 Ea 1.000 Ea 1.000 Ea Override Override Override Override Override Override 25.B.3 - 4th & Townsend HSR Observed HSR Observed Observe **ELEMENT ID** 3411202 3411203 3411208 3411201 3422128 3411205 3411120 3411120 3411204 BART HSH 25.B.3 25.B.4 25.8.4 25.B.4 25.B.4 25.B.4 25.B.3 25.B.3 25.B.4 WBS

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Below Ground Station - BART (Highway 1)

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Dec 5, 2006 (Rev A)

TOTAL

CONTINGENCY ENGR'G & CM SPECIAL COND COST / UC DESCRIPTION BART OPTION 2 - OAKLAND TO SF (33rd AVE) QUANTITY UNIT ELEMENT ID

25.B - BART Option 2 - Oakland to San Francisco (33rd Ave)

737,730,175 1,151.15 523,25 2,616.25 8,058,050 7,325,500 47,092,500 47,092,500.00 47,092,500 47,092,500.00 7,325,500 1,046.50 3,662,750 12,819,625 1,831.37 1,046.50 18,313,750 759.00 0.0 1,207.50 690.00 486,415,500 31,050,000.00 690.00 345.00 8,452,500 12,075,000 1,725.00 5,313,000 31,050,000 31,050,000 31,050,000.00 4,830,000 2,415,000 4,830,000 2,310,000 211,485,000 750.00 13,500,000 13,500,000.00 300.00 150.00 525.00 300.00 5,250,000 3,675,000 2,100,000 13,500,000 13,500,000.00 2,100,000 000'050'1 2,200.00 0.00 2,000.00 1,409,900,000 5,000.00 15,400,000 90,000,00 90,000,000,06 90,000,00 90,000,000,00 14,000,000 2,000.00 7,000,000 1,000.00 24,500,000 3,500.00 14,000,000 35,000,000 Below Ground Station - BART (33rd Street) Below Ground Station - BART (25th St) Tunnet Ventilation System - 2 Tunnels Double Track, Direct Fix Special Trackwork Communications Traction Power Train Control 25.B.4 - Fremont St to 33rd Ave (San Francisco) Work Element Work Element Work Element Work Element Work Element Work Element ,000.000, RM ,000.000, 7,000.000 RM 7,000.000 RM ,000.000, RM 7,000.000 RM 1.000 Ea 1.000 Ea Override Override 25.B.4 - Fremont St to 33rd Ave 3422128 3412110 3422122 3422124 3411209 3412120 3422120 3411208 BART 25.B.4 Page 78 % 25.B.4 25.B.4 25.B.4 25.B.4 25.B.4

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UNIT COST DETAIL REPORT

SF BAY AREA REGIONAL RAIL PLAN

EARTH TECH

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555,018,750 0.00 TOTAL Dec 5, 2006 (Rev A) 10,169,780,107 143,893,750 0.00 CONTINGENCY 2,636,609,657 94,875,000 0.00 ENGR'G & CM 1,738,423,950 SPECIAL COND 41,250,000 0.00 755,836,500 COST IN USD COST/UC 275,000,000 0.00 5,038,910,000 DESCRIPTION BART OPTION 2 - OAKLAND TO SF (33rd AVE) QUANTITY UNIT ELEMENT ID 25.B.5 - Other BART Costs REPORT TOTALS WBS

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2,522,812 50,456.25 4,450,241 5,297.90 3,027.37 7,568.43 0.00 1,017,198 1,271,497 1,513.68 20,184,518 121,095,000 121,095.00 12,109,500 605.47 2,542,995 4,036,500.00 60,547.50 TOTAL 6,357,487 4,036,500 PRISM-BARTF-12/05/2006-16:30:23 PAGE 1 508,599 Dec 5, 2006 (Rev A) 15,697.50 654,062 13,081.25 1,046,500 1,046,500.00 5,233,023 0.00 3,139,500 1,153,766 1,373.53 1,962.18 392.43 659,295 784.87 31,395,000 131,859 156.97 1,648,237 31,395.00 263,718 313.95 329,647 CONTINGENCY 1,086,750 2,070,000 10,350.00 431,250 217,350 258.75 760,725 905.62 517.50 1,293.75 0.0 86,940 103.50 3,450,345 20,700,000 20,700.00 173,880 207.00 690,000 690,000,00 434,700 ENGR'G & CM SPECIAL COND 25.F - BART Option F - Fourth Tunnel Bore (Oakland) 300,000,008 900,000 187,500 3,750.00 472,500 4,500.00 189,000 225.00 0.00 9,000,000 9,000.00 94,500 112.50 330,750 393.75 562.50 1,500,150 37,800 45.00 75,600 SF BAY AREA REGIONAL RAIL PLAN 2,000,000 COST IN USD 504,000 2,205,000 2,625.00 1,500.00 10,001,000 000 90,000,00 60,000,00 6,000,000 30,000.00 1,250,000 COST / UC 252,000 300.00 750.00 3,150,000 3,750.00 600.00 1,260,000 630,000 Mined Tunnel (Under Existing BART Tracks) Demolish At Grade Single Track (Ballasted) MacArthur Stn to Tunnel Portal (East) Miscellaneous Modifications Single Track, Ballasted Retained Cut and Fill Special Trackwork Communications Aerial Structure DESCRIPTION **Fraction Power** Single Track Single Track **Frain Control** Single Track Single Track 25.F.2 - Oakland East Portal to Oakland West Portal 25.F.1 - MacArthur Station to Oakland East Portal Work Element 840.000 RM Work Element Work Element Work Element QUANTITY UNIT Work Element 50.000 RM 1,000.000 RM 200.000 RM 840.000 RM 840.000 RM 840.000 RM 840.000 RM 840.000 RM 1.000 LS Override Override Override Override Override BART Through 19th & 12th Street Stations TYPE 25.F.1 - MacArthur Station to ELEMENT ID 3411149 3422140 3411147 3422122 3422124 3412103 3422120 REPORT BARTF 3412101 3412120 **Broadway Street** EARTH TECH 25.F.2 25.F.2 25.F.1 F. Page 80 7. 25.F.1 25.F.1 25.F.1 25.F.1 WBS

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EARTH TECH

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20,182,500 20,182,500.00 3,784,218 3,027.37 9,460,546 7,568.43 2,522,812 2,018.25 3,330.11 00.0 1,513.68 4,162,640 285,267,023 1,892,109 5,297.90 305,451,541 50,456,250 50,456,250.00 6,622,382 Dec 5, 2006 (Rev A) TOTAL 50,456,250 50,456,250.00 5,232,500 5,232,500.00 2,452,734 1,962.18 863.36 784.87 1,079,203 73,958,117 0.00 654,062 523.25 392.43 79,191,140 981,093 1,373.53 CONTINGENCY 13,081,250 13,081,250.00 13,081,250 13,081,250.00 490,546 1,716,914 1,132,031 905.62 569.25 3,450,000 3,450,000.00 1,617,187 711,562 0.00 517.50 48,763,593 52,213,938 431,250 345.00 258.75 646,875 1,293.75 8,625,000.00 8,625,000 3,625,000.00 ENGR'G & CM 8,625,000 323,437 SPECIAL COND 1,500,000 21,201,562 25.F - BART Option F - Fourth Tunnel Bore (Oakland) 703,125 562.50 247.50 22,701,712 3,750,000 393.75 225.00 187,500 150.00 112.50 492,187 281,250 309,375 140,625 3,750,000 3,750,000.00 10,000,000 Modify Below Ground Station - BART (12th / City Center Station) 1,875,000 1,500.00 West Oakland BART Connection - Misc Structural Modifications 141,343,750 000 1,250,000 4,687,500 3,750.00 2,062,500 1,650.00 151,344,750 750.00 COST / UC 25,000,000.00 25,000,000 2,625.00 25,000,000.00 937,500 3,281,250 Modify Below Ground Station - BART (19th Street Station) Tunnel Ventilation System - 1 Tunnel Single Track, Direct Fix Special Trackwork Communications DESCRIPTION Traction Power Train Control Single Track Single Track Single Track Single Track Single Track 25.F.2 - Oakland East Portal to Oakland West Portal Work Element Work Element QUANTITY UNIT Work Element Work Element Work Element Work Element ,250.000 RM 1,250.000 RM ,250.000 RM ,250.000 RM 1,250.000 RM 1,250.000 RM 1.000 LS 1.000 LS 1,000 LS Override Override BART Through 19th & 12th Street Stations TYPE 25.F.2 - Oakland East Portal to ELEMENT ID 3422124 3422140 3411218 3412112 3422120 3422122 3422127 REPORT BARTF 3411219 3412120 **Broadway Street** REPORT TOTALS Page 81 25.F.2 25.F.2 25.F.2 25.F.2 25.F.2 25.F.2 25.F.2 WBS